

**NPDES Report for the Period January 1 to December 31, 2002**  
**Pierce County, Washington**  
**Submitted March 2003**

This report describes the ongoing activities of Pierce County in fulfillment of the requirements of the National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for discharges from municipal separate storm sewers (MS3s) for the South Puget Sound Water Quality Management Area, and the portion of the Kitsap Water Quality Management Area located in Pierce County.

**Assessment of Stormwater Program Needs**

In 2002, Pierce County issued two comprehensive basin plans for surface water management. Draft Clover Creek and Gig Harbor Basin Plans and associated environmental impact statements were issued in November 2002 that identify flooding, water quality, and associated fish habitat problems and propose solutions in those basins. In doing so, they further the County's compliance with FEMA's Community Rating System requirements, Department of Ecology's NPDES stormwater permit, and the federal Endangered Species Act. The plans are the first of several basin plans to be completed over the next several years by the County. The plans update the County's 1991 surface water management plan ("JMM Plan") and will direct expenditures of surface water management utility revenues for each basin.

The plans:

- Identify, prioritize, and estimate costs of capital improvement projects (CIPs) and non-structural actions
  - CIPs: detention ponds, conveyance systems, culverts, property acquisitions, restorations
  - Non-structural: Inspections, education, monitoring, low-impact pilot projects
  - Clover Creek Basin Plan: \$62.1m of actions (\$36.9m are High Priority)
  - Gig Harbor Basin Plan: \$17.9m of actions (\$6.7m are High Priority)

In addition to these plans, Pierce County made major progress on Muck Creek Basin Plan and completed basin characterization reports for Mid-Puyallup and Clear Creek / Clarks Creek basins in 2002. Total 2002 expenditures: \$796,682.

**Creation of Program Services Section**

In 2002, Pierce County's Water Programs created a new section, and hired a manager for the section. Functions of the new section include coordination of basin planning, permitting of surface water management facilities, salmonid habitat protection and restoration, watershed planning, education and outreach, and other water program services. The Section initiated a comprehensive gap

analysis of water education and outreach activities. A report and recommendations is scheduled for Spring 2003.

### **Endangered Species Act Activities**

Pierce County employs a Special Project Coordinator to deal with habitat protection and restoration issues related to ESA. In addition, an Environmental Biologist has been added to the Special Project staff to bring additional scientific expertise in house. Special Projects continues to be involved in the following initiatives:

#### *Tri-County*

A voluntary coalition of tribes, local governments, business community, and environmental agencies formed a group to see what we could do together to add in habitat protection and restoration issues. It started as a response to the listing of Chinook and bulltrout as threatened under the Endangered Species Act. It evolved into a multi-species (salmonids) recovery effort.

A model for compliance with National Marine Fisheries Services 4(d) Rule was developed. It included sections dealing with land use, stormwater, and road maintenance. In addition, it had sections on adaptive management, habitat restoration, and recovery planning.

During 2002 the Model was reviewed for its scientific credibility. The report was produced, presented to the Tri-County Executive committee including the federal and state resource agencies. The model was deemed scientifically sound. Now the model is available for individual jurisdictions to use to formulate their own response to the listings.

#### *Pierce County*

Pierce County has undertaken a thorough review of almost all of the land use/land related regulations and programs to see if they adequately address habitat protection and restoration issue. The issues identified include those in the Tri-County model in addition to updates on stormwater control, flood management, low impact development guidance, and critical areas (seismic, volcanic, landslide, erosion, mines, wetlands, and fish and wildlife.) Amendments and new sections have been drafted to various sections of the County Code and taken through the public review process at the Planning Commission. As a result of the public input a group of interested parties met for 3 ½ hours most weeks from May through December to clarify issues. The package is going back to the Planning Commission in March of 2003 and it is expected to be forwarded to the County Council in May of 2003.

Funding was provided by Pierce County to address several habitat initiatives. One of the major projects includes a second phase of analysis of all of the stream reaches within the Puyallup and Chambers/Clover watershed. Just as with the first phase that was done the previous year, this phase was done using a

computer modeling system known as the Ecosystem Diagnosis and Treatment Methodology (EDT). Building off the Phase 1 results habitat protection/restoration priorities are being modeled to see how different combinations of actions could help with the recovery of threatened or at risk salmonid species.

#### *State*

The Washington State legislature mandated the development of a "comprehensive monitoring strategy and action plan for measuring watershed health with a focus on salmon recovery" (SB5637) that began in 2001. The report and findings were presented to the legislature in 2002. Pierce County represented local governments on the development committees.

Pierce County spent \$726,160 on ESA activities in 2002.

#### **Habitat Protection and Restoration Package**

As mentioned above in the ESA section, part of Pierce County's response to ESA has been a thorough review and proposed update to many of our land use regulations and practices. This activity took place throughout 2001 and 2002 and is due to complete the adoption process during the second half of 2003. The following is a brief summary of proposed changes:

#### *Overview of Habitat Protection and Restoration Package*

##### **Title 17A - Site Development & Stormwater Drainage Regulations**

- Developed new Low Impact Development Chapter
  - This Chapter allows an alternative method of handling stormwater on a site
  - Increases the predeveloped condition from existing condition to pre-European settlement condition (e.g. either forested or prairie)
  - Emphasizes disconnection of impervious surfaces and direction of stormwater runoff into small, dispersed controls such as bioretention areas (rain gardens), bioswales, and created wet ponds that mimic natural wetlands
  - Encourages 65% vegetation retention on site in order to achieve stormwater management goal and objectives
  - Requires all critical areas and their associated buffers be set aside in separate tracts
  - Includes tree protection standards during construction and long-term maintenance requirements
- Repeals Chapter 17A.50 Floodplain Management
- Amends Chapter 2 & 4 of the manual to clarify the engineering and geotechnical requirements for construction on slopes greater than 30%
- Amends Chapter 3 with new glossary terms

##### **Title 18-General Provisions**

- Created a new Chapter 18.25 to provide a unified definitions chapter (note: this also includes companion amendments to other Titles where definitions are being stricken)

- Added new language to the Compliance Chapter:
  - Added resource management biologists and site development inspectors to those staff authorized to enforce violations
  - Added new language which enables to the County to require the removal of illegal fill, structures or facilities (such as on-site septic systems)
  - Added new language that authorizes the County to file a Notice of Non-Compliance on the title of any property containing a violation and criteria for removal of such notice
  - Added new language for civil penalties (note this language already exists in Title 17A but is not currently accessible for use in the Title 18 series)
- Amended Chapter 18.20 Introduction to update the code citations

#### Title 18A-Zoning Code

- Establishes limits on total impervious surface and vegetation removal in rural areas

#### Title 18D - Environmental Regulations

- Repeals Chapter 18D.30 Environmentally Sensitive Areas as this term is no longer used in the SEPA WACs and these areas are now adequately protected through the Critical Area Regulations
- Amends Chapter 18D.40 to update the documents used for substantive authority

#### Title 18E-Critical Area Regulations

- Repeal 18E and readopt new code
- Completely rewritten based upon best available science in conformance with WAC 365-195-900 through 925
- Clarified the agricultural activity definition and associated exemption language
- Expanded the Exemption section.
- Wetlands Chapter
  - Formalized a number of wetland review procedures and policies previously provided in various documents (e.g. mosaic delineation methodology, use of County Wetland Rating Form, One-Family Wetland Certification Form, Conversion Option Harvest Plan wetland review).
  - Expanded the hydrology requirements associated with mitigation plans.
- Critical Fish and Wildlife Chapter:
  - Significantly increased required buffers along freshwater and marine water bodies (lakes, ponds, rivers, streams, Puget Sound shorelines)
  - Created a new section on Species of Local Importance with additional species to be considered critical
  - Expanded the Habitats of Local Importance roster to include Biodiversity Management Networks, heron rookeries, and cavity duck nesting habitat.
  - Expanded the regulated status of Oregon white oak
  - Created a hierarchy of habitat assessment processes
  - Established mitigation requirements and procedures.
  - Established buffer reduction guidelines

- Created new standards for critical habitats (adjacent to watercourses and water bodies and Oregon white oaks)
- Erosion Hazard Chapter:
  - Created a new erosion hazard chapter with restrictions on getting approval for a proposed hard armoring method of shoreline erosion protection (e.g. concrete bulkheads).
  - Requires the submittal of a shoreline erosion geotechnical report for all proposed regulated activities within 200 feet of the ordinary high water mark, which will evaluate whether active erosion is occurring.
  - Established a no build for active shoreline erosion hazard areas, a 50 foot buffer requirement, and created a shoreline erosion hazard management area.
- Established a no build for active landslide hazard areas, increased the buffer requirements and created a landslide hazard management area.
- Expanded the floodway to include channel migration zones which have been applied to certain rivers and streams in Pierce County that have demonstrated active channel movement
- Created a new fault rupture hazard area category in the seismic chapter and established a no build zone and buffer
- Created time travel zones within a volcanic hazard areas and restricted allowable uses within these areas
- Prohibited certain uses within the aquifer recharge/wellhead protection areas
- Created new definitions
- Established new exemption thresholds for certain activities
- Eliminated nonconforming rights for uses in flood hazard areas and active landslide hazard areas

#### Title 18H-Forest Practice Regulations

- Repeal 18H and readopt new code
- Developed a new tree conservation chapter, which requires a minimum percentage of trees be retained or replanted on a site. This Chapter also includes tree protection standards during construction and long-term maintenance requirements.
- Relocated some administrative procedures within the code
- Modified criteria for approval of Class IV forest practices to ensure consistency with state law.
- Modified criteria for Class IV forest practices, conversion option harvest plans, and single-family dwelling exceptions to improve administration and consistency and to close unanticipated regulatory loopholes.
- Created new definitions

#### *List of Appendices Included in the Habitat Protection and Restoration Package*

#### Title 16, Subdivision and Platting Regulations

- Amendments to Chapter 16.02.20 Definitions (Title 16 definition strikeout.doc)

#### Title 17A - Site Development & Stormwater Drainage Regulations

- Amendments to Title 17A Regulations (Title 17A, Site Development and Stormwater Drainage.doc)
- Amendments to Chapter 2, Site Development and Stormwater Management Manual (Chapter 2 Stormwater Manual.doc)
- Amendments to Chapter 3, Site Development and Stormwater Management Manual (Chapter 3 Stormwater Manual.doc)
- Amendments to Chapter 4, Site Development and Stormwater Management Manual (Chapter 4 Stormwater Manual.doc)
- Creates a new Chapter 10, Site Development and Stormwater Management Manual (Chapter 10 Stormwater Manual.doc)

#### Title 18-General Provisions

- Amendments to Chapter 18.20 - Introduction (Chapter 18.20 - Introduction.doc)
- New Chapter 18.25 (Chapter 18.25 - Definitions.doc)
- Amendments to Chapter 18.140 - Compliance (Chapter 18.140 - Compliance.doc)

#### Title 18A-Zoning Code

- Amendments to Chapter 18A.15 Definitions (Title 18A definitions strikeout.doc)
- Amendments to Chapter 18A.35 - Landscaping (Chapter 18A.35 - Landscaping.doc)

#### Title 18B-Signs

- Amendments to Chapter 18B.10.020 Definitions (Title 18B definitions strikeout.doc)

#### Title 18D - Environmental Regulations

- Repeals Chapter 18D.30 Environmentally Sensitive Areas and amends Chapter 18D.40 to update the documents used for substantive authority (Title 18D - Environmental Regulations.doc)
- Amendments to Chapter 18D.10.040 Definitions (Title 18D definitions strikeout.doc)

#### Title 18E-Critical Area Regulations

- Repeal existing 18E and readopt new code (Title 18E - Critical Area Regulations.doc)

#### Title 18H-Forest Practice Regulations

- Repeal existing 18H and readopt new code (Title 18H - Forest Practice Regulations.doc)

#### Title 18I-Natural Resource Lands Regulations

- Amendments to Chapter 18I.10.050 Definitions (Title 18I definitions strikeout.doc)

#### Title 18J-Design Standards and Guidelines

- Amendments to Chapter 18J.10.030 Definitions (Title 18J definitions ~~strikeout.doc~~)

#### Title 20-Shoreline Management Regulations

- Amendments to Chapter 20.04 Definitions (Title 20 definitions ~~strikeout.doc~~)

#### **Low Impact Development**

As mentioned above, Pierce County has been working on a Low Impact Development Ordinance as part of our ESA response. A brief summary of activities is included below:

**Work on Low Impact Development Ordinance Description** - This work involves drafting a new low impact development (LID) chapter in the existing Pierce County Stormwater Manual. This new chapter will provide guidance on using low impact development techniques to manage stormwater from new development.

Progress - The new LID chapter is part of the regulatory/program update. The goal and companion objectives for achieving an LID design are included which need to be demonstrated through the use of a combination of prescriptive standards.

**Conceptual Low Impact Development Design Description** – Work on a conceptual design for a low impact development in Pierce County has progressed in cooperation with Washington State University Cooperative Extension and AHBL Engineering. Pierce County staff has completed a conceptual design for a LID in the urban area. This design achieves densities of approximately four du/acre on a difficult site that contains critical areas and poor soils. This design will be used to illustrate a good LID design to developers and County staff.

Progress - The site layout for the conceptual LID design is complete and the hydrologic modeling for the design has been adapted to comply with the new Department of Ecology (DOE) methodology, which is laid out in the 2001 Stormwater Manual. Pierce County staff conducted an initial meeting with DOE staff to discuss LID techniques and their incorporation into the WWHM model. Pierce County continues to meet with DOE staff to provide them with the results of the hydrologic modeling done for the conceptual design and to discuss the need for additional stormwater credits to be given for LID techniques. If the DOE accepts these credits the parameters within the WWHM model would be adjusted to more accurately reflect the retention of stormwater by the LID techniques, which would ultimately reduce the volume of storage required in detention ponds.

#### **Construction of Low Impact Development Pilot Project**

Pierce County is a co-applicant on an actual low impact development project. The project site is just over 8 acres in size and will accommodate 35 single family

homes. The project is designed to retain about 50% of the site in open space, wetlands, and passive recreation trails. The project goes to public hearing on March 20, 2003 with anticipation of construction beginning during the summer of 2003.

Pierce County felt it was important to help get a pilot project in place to show the citizens and the developers that they could achieve water quantity and quality goals in a more natural manner. It is also the intent to show there is a market for this kind of development. It helps achieve the County's goals to allow for anticipated population growth and housing needs while complying with environmental regulations. It is also anticipated the use of low impact development techniques has the ability to keep the public cost of stormwater control in check.

### **Wetlands Banking**

In 2002 there was minimal activity in the actual Water Programs Wetlands Banking program. Development of a Division Mitigation Banking program was on the back burner, due to lack of immediate (or past) need for off-site mitigation properties, and in part due to a desire to see the final version of the Washington State Mitigation Banking Rule from Ecology (which ended up being withdrawn prior to adoption). Only \$1200 were expended on program related activities last year, which included evaluation of potential acquisition sites.

The Transportation Division constructed two wetland mitigation sites in 2002 for a total wetland creation acreage of 1.5 acres and wetland enhancement of 0.6 acres. No wetland banking sites were constructed. Monitoring of current mitigation sites took approximately one month. This work utilized approximately 1/4 FTE.

### **Capital Improvement Program**

*Second Year Construction of North Fork Detention Pond:* This large (80 acre-foot) detention pond is designed to limit storm flows in the creek, holding excess flows until the storm has passed, and then releasing the stored water slowly. This project, in coordination with another large pond completed in 1999, will reduce the frequency and severity of flooding through out the Clover Creek system. Wetland planting and other items will keep this program active for 2-3 more years.

2002 Expenses: \$90,000

*Habitat Enhancement for Elevation of 136<sup>th</sup> St. E. between 'A' St. & 'B' St.:* Frequent closure of this road due to flooding has blocked access to an entire neighborhood. The roadway was raised above the 100-year floodplain in 2001. 2002 Expenses: \$5,000.

*Construction of Glen Oaks Pipeline:* Localized flooding frequently occurred in the plat of Glen Oaks adjacent to a closed depression/wetland which was not large enough to hold water from larger storms.



2002 Expenses: \$310,600.

*Fife Heights Pipeline:* Constructed a closed storm drainage line to prevent flooding of adjacent homes and large scale erosion of the channel. Prevents additional sediment load from reaching Hylebos Creek.

2002 Expenses: \$243,000.

*Hosmer Holding Basin:* Cooperative project with City of Tacoma, City of Lakewood and WSDOT to increase the capacity of the Hosmer Holding Basin. Although this basin is located in the City of Tacoma, it also receives storm flows from unincorporated Pierce County and WSDOT facilities. Improvements to this facility will benefit downstream flood prone properties, primarily within the City of Lakewood.

2002 Expenses: \$255,600.

*Black Swamp Property Acquisition:* Acquired two floodprone properties in the "Black Swamp" closed depression. Homes will be removed in 2003.

2002 Expenses: \$376,200.

*West Tapps Drive:* Acquired one flood prone home in 2001. In 2002 we removed the home and created a stormwater holding pond to protect adjacent properties.

2002 Expenses: \$83,200

*Habitat Acquisition:* Major riparian properties were acquired in the Gig Harbor and Clover Creek areas to preserve natural floodplain and habitat functions.

2002 Expenses: \$580,150.

*Land Acquisition for future CIP:* Several properties were purchased in preparation for future ponds. 2002 Expenses: \$367,700.

*Other Work:* In addition to the projects listed above, the CIP division is working on the design of numerous projects for future projects. Work includes survey, soils investigations, wetland delineations, habitat assessments, and preliminary engineering.

*Total 2002 CIP Expenses:* \$2,610,700

#### **Activities in Support of Total Maximum Daily Loads (TMDL)**

In 2002, Pierce County Water Programs continued normally scheduled activities in the Clover-Chambers basin (containing Steilacoom Lake) such as industrial/commercial inspections, response to complaints and concerns, educational activities, Stream Team monitoring and planting activities, and basin planning activities. The Pierce Conservation District has taken over coordination activities for the Clover Creek Watershed Interim Council for implementation of the Clover-Chambers Watershed Plan.

As Ecology is aware, EPA vacated the phosphorus portion of the Steilacoom Lake TMDL in February 2002. A meeting sponsored by Ecology was held in March 2002 to get stakeholder input regarding available data and potential data gaps needing to be filled in order for Ecology to do an effective TMDL in 2003 or 2004. Pierce County has stated our willingness to be involved in the development of the new TMDL. Any special reporting requirements or actions under the current NPDES permit are now null and void with the vacation of the phosphorus portion of the TMDL. Pierce County and Ecology remain defendants in a lawsuit filed by the Steilacoom Lake Homeowners Association. This lawsuit is currently in mediation.

Ecology requested no additional assistance in their analysis of the South Prairie Creek TMDL in 2002. Ecology collected additional data in the Puyallup TMDL and the Upper White River TMDL. Ecology and the Muckleshoot and Puyallup tribes continued work on the Lower White River TMDL. Pierce County contributed \$530 toward the long term monitoring efforts in the Puyallup, as agreed to in the Puyallup River TMDL Mediation Agreement. We also offered the use of H2O's toward this effort.

Pierce County is a participant on the City of Puyallup committee for the Clarks Creek/Meeker Ditch TMDL.

### **River Activities**

#### ***REET Land Acquisition***

Five (5) separate riverine land parcels were purchased for a purchase cost of \$610,500. The total land area of purchases is 9.0 acres. Three of the parcels contained house structures for which demolition and structure relocation is the means of disposal. The parcels will be kept as permanent open space and allowed to revert back to natural conditions.

#### ***Repetitive Flood Loss Property Acquisition***

Pierce County Water Programs completed acquisition of three (3) additional repetitive flood loss properties in the lower reach of the Clear Creek tributary system. The project includes removal of three house structures and outbuildings (including detached garages) from the lots, abandonment of wells/septic systems and final restoration. The purchase cost of the parcels was \$538,700 in which the County received a grant from the DOE Flood Control Account Assistance Program in the amount of \$570,000 and the County provided a 50% match. The sites will remain as open space in perpetuity. The acquisitions are strictly voluntary.

The County also received a FEMA Hazard Mitigation Grant in the amount of \$1.4 million to further efforts to mitigate repetitive flood loss properties. It is anticipated that the funds will be adequate to acquire another five to six properties. The program is also strictly voluntary.

#### *Floodplain Map Modification*

The County is also working with FEMA on another floodplain mapping project whereas FEMA is funding a project to re-mapping/study of up to fourteen (14) major river and creek tributaries. The re-mapping project will include new basin hydrology and hydraulic modeling for the subject rivers and creeks. This will produce a new 100-year flood inundation map with new computed base flood elevations. The cost of the project is about \$1.2 Million.

#### *Puyallup River Soldiers Home Setback Levee Project*

Pierce County was successful in obtaining a Salmon Recovery Funding Board (SRFB) Grant to construct a 5,200 Lin-Ft setback levee along the left bank of the Puyallup River along the frontage of the State Of Washington Soldiers Home property. The grant award amount is \$990,000 in which the County will cost share with the Army Corps of Engineers to design and build the setback levee that has an estimated project cost of \$3,330,000. Construction is anticipated to begin in late 2004.

#### *Puyallup River Larson Revetment*

Pierce County Water Programs completed the construction of the Larson Revetment project in which the County was a local sponsor with the Army Corps of Engineers. The project is located along the left bank of the Puyallup River at River Mile 25.7, south of the City of Orting. The revetment is a setback type of facility and is 160 Lin-Ft in length. The project incorporated placement of Large Woody Debris, rock groins and willow stake planting for fish habitat enhancement features. The project was needed to protect the major arterial roadway of Orville Road. The February 1996 flood event has completely washed away the existing levee and left the Orville Road embankment section exposed to further riverine erosion. The project cost \$550,000.

#### *FEMA NATIONAL FLOOD INSURANCE PROGRAM - COMMUNITY RATING SYSTEM*

*The objective of the (Community Rating System) CRS is to reward communities that are doing more than meeting the minimum requirements of the National Flood Insurance Program. The incentives for communities to go beyond minimum requirements include reductions of flood insurance rates, enhanced responsiveness and a preventive approach to future losses.*

*In order to realize these benefits, communities must be evaluated and assigned a class status rating of the CRS. The CRS has 10 classes: Class 1 gives the greatest premium reduction; a Class 10 receives no premium reduction.*

In 1995, Pierce County applied for and was verified into the Community Rating System (CRS).. At the time of enrollment, the County was verified as a Class 8 CRS Community. In October 2000, Pierce County obtained status as a class 5

community under this program, the first community in the country to attain that status.

In 2002, Pierce County initiated the process to attain class 4 or better status. To attain that status, the County issued comprehensive basin plans for Clover Creek and Gig Harbor basins. The Basin Plan has been prepared using CRS Class 4 or better prerequisites and will be part of Pierce County's overall evaluation. Specifically, the Basin Plan has been prepared to meet or exceed the following:

*Floodplain Management Planning Elements*  
*CRS Planning Steps:*

- 1) Organize
- 2) Involve the public
- 3) Coordinate
- 4) Assess the hazard
- 5) Assess the problem
- 6) Set goals
- 7) Review possible activities
- 8) Draft an action plan
- 9) Adopt the plan
- 10) Implement, evaluate, revise

Other activities supporting class 4 or better status include the following:

- A.) Elevations Certificates including computer format/database
- B.) Map Information – publicizing the service in the regional phone book
- C.) Outreach Projects – production of a video titled “As the Waters Rise”
- D.) Flood Protection Assistance
- E.) Open Space Preservation – land acquisition with setback levee projects
- F.) Higher Regulatory Standards
- G.) Flood Data Maintenance
- H.) Stormwater Management
- I.) Acquisition and Relocation
- J.) Drainage System Maintenance
- K.) Floodwarning

As of this report, a FEMA determination on the county's request has not been finalized.

**FLOODPLAIN REGULATIONS**

Pierce County Water Programs has developed and prepared a draft set of revised floodplain regulations as part the overall project to update and amend the current Critical Areas Ordinance, as part of the County's response to ESA from the recent listing of the salmonid species as threatened. The floodplain regulations will be integrated as a critical areas regulation rather than through the Stormwater Management and Site Development manual. The proposed

regulations have more stringent development standards than the current in that new requirements will not include channel migration zones, zero rise criteria, more stringent criteria for Deep and/or Fast Flowing water (floodway), minimum house elevation criteria, etc. The draft Critical Area Ordinance is now going through public review and comment. The regulations as proposed will reduce flooding impacts to people and property and help to reduce water quality impacts within floodplains.

### **Watershed Planning**

#### **Puyallup River Watershed Council**

During the year of 2002 the Puyallup River Watershed Council (PRWC) continued to hold monthly forums for residents, agencies, governments and other interested parties of the watershed. Topics presented, discussed and approved in some cases, included:

- \*US Dept. of Reclamation Puyallup River Sediment Study,
- \*Mt. Rainier National Park Entrance planning process,
- \*South Prairie Creek Total Maximum Daily Load (LMDL) agreement process
- \*Lake Tapps Water Quality, Quantity and rights pros and cons presentation by The Puget Power Company
- \*Salmon recovery projects as organized through the State Salmon Recovery Funding Board process
- \*Puyallup River Total Maximum Daily Load agreement update
- \*Watershed Green way Planning efforts
- \*Watershed Biodiversity study presentation
- \*Industrial Compliance issues as they related to their NPDES standards and permits
- \*Implementation of the two Watershed Action Plans as they relate to water Quality and Quantity
- \*Small Cities requirements for their Phase II NPDES permits
- \*Discussion and input on Water Programs Basin Plans

Governance issues have included the formation of a Strategic Action Plan for the Council as well as the formation of their annual Work Plan. At least One grant was written and submitted in 2002.

By the summer of 2002 the Upper Puyallup Watershed Committee had completed the Upper Puyallup Watershed Action Plan. The Plan was then sent out to all Lead Implementers for comment and concurrence. The Lead Implementers are all those how have been identified in some manner as having a role in the implementation of the Plan. The Puyallup River Watershed Council took full responsibility for long term implementation. They intend on tracking each of the Action Items in the Plan and reporting back to the Watershed Council annually. Pierce County Water Programs is responsible for a large portion of the activities in the Plan, and has been moving ahead and addressing those activities. The Ecology Grant used to build the Plan was closed out in 2002.

## **Chambers Clover Watershed Council**

During the year of 2002 the Chambers Clover Watershed Council (CCWC) continued to hold bimonthly forums for residents, agencies and governments and other interested parties of the watershed. Topic presented, discussed and approved in some cases included:

- \*Salmon recovery projects as organized through the State Salmon Recovery Funding Board process.
- \*General discussions of the status of the Lakes in the Watershed.
- \*General discussions on the progress of the Chambers Clover Creek Watershed Action Plan.
- \*Progress on the 2514 Watershed Planning (water Quantity) Process
- \*Discussion and input on Water Programs Basin Plans

Governance issues focused on the formation of the Council on a more formal footing, finalizing by-laws and discussions of the 2003 Council Work Plan.

### **Staffing**

Typically one watershed planner has attended monthly meetings and other staff have attended as topics of concern have arisen. Committee attendance has also been beneficial for Water Programs. The Watershed Councils are by far the most successful citizen oriented process in this division. And as such they have been valuable avenues to get the word out, get feed back on basin plans and to help us reach decisions on TMDL issues as well as helping other make NPDES decisions.

Over the past year these activities have taken at a minimum 100 hours of Water Programs staff time. This is a very general figure, and could vary substantially.

### **Controlling Runoff from New Development and Redevelopment**

The Development Engineering Section is responsible for ensuring that development and redevelopment occurs in accordance with the requirements of the County's Stormwater Management and Site Development Ordinance. The following is a breakdown of our staffing for the year along with the percentage of time spent by each employee implementing the requirements of the ordinance:

- A.) We employed four CE2 engineers for the entire year. These employees reviewed the designs of proposed road, storm drainage, clearing, and impervious surface type-projects for compliance with the County's Stormwater Management and Site Development Ordinance. Seventy-five percent of their time was spent implementing the ordinance requirements.
- B.) We employed one CE2 engineer for the entire year. Forty percent of this employee's time was spent reviewing the designs of proposed road, storm

drainage, clearing, and impervious surface type-projects for compliance with the County's Stormwater Management and Site Development Ordinance. The other fifty percent of this employee's time was spent handling complaints and violations related to stormwater, erosion, filling, and flooding. Ninety percent of this employee's time was spent implementing the ordinance requirements.

- C.) We employed four ET3 inspectors for the entire year who performed erosion control inspections and permanent BMP inspections on road, storm drainage, commercial, subdivision, and industrial-type developments. Eighty percent of their time was dedicated to implementing the ordinance requirements.
- D.) We employed two and one-half ET3 inspectors for the entire year to perform erosion control and drainage inspection on single family home construction. One hundred percent of their time was dedicated to implementing the ordinance requirements.
- E.) We employed one and one-half ET3 inspectors for the entire year. One hundred percent of these employee's time was spent investigating, documenting and resolving potential violations of the ordinance requirements.
- F.) We employed two and one-half ET3 counter technicians for the entire year to assist single-family building permit applicants in implementing necessary storm drainage and erosion control BMPs that are a requirement of the ordinance. Seventy-five percent of these position's time was spent implementing the ordinance requirements.
- G.) We employed one CE1 for the entire year. This employee reviewed the designs of proposed road, storm drainage, clearing, and impervious surface-type projects for compliance with the County's Stormwater Management and Site Development Ordinance. Seventy-five percent of this employee's time was spent implementing the ordinance requirements.
- H.) We employed two OA2 office assistants and one part time office assistant for the entire year to provide support for CE2, CE1 and ET3 staff. Fifty percent of their time was spent providing support to staff for issues relating to ordinance implementation.
- I.) We employed two part time extra hires last year. Ninety to one hundred percent of their time was spent implementing the ordinance requirements.
- J.) We employed one Development Engineering Supervisor for the entire year. The supervisor was responsible for directing staff in the implementation of

the ordinance. Approximately thirty percent of the supervisor's time was spent on issues related to ordinance implementation.

- K.) We employed one Development Engineering Inspection Supervisor for the year. The supervisor was responsible for directing staff in the implementation of the ordinance. Approximately seventy percent of the supervisor's time was spent on issues related to ordinance interpretation.
- L.) We employed one engineer for the year on an extra hire basis to review plans. Seventy-five percent of this position's time was spent implementing the ordinance.
- M.) We retained four engineering firms for the entire year to assist in plan review. Eighty percent of the hours purchased were spent implementing the ordinance.
- N.) We retained one inspector on an extra-hire basis for the year. This inspector performed drainage and erosion control inspections on single family residence construction. On hundred percent of his time was spent implementing the ordinance.

The Development Engineering Section expended approximately \$1,510,000 during 2002 implementing the Stormwater Management and Site Development Ordinance. This is approximately the same amount that we spent last year.

The Code Enforcement Section of the Planning Department is responsible for investigation and enforcement of numerous County ordinances, and they act as the central clearinghouse for complaints. The Code Enforcement Section supports implementation of the Stormwater Management and Site Development Ordinance by fielding telephone calls and initiating the documentation of complaints pertaining to storm drainage, erosion, sedimentation, and flooding. One employee from Code Enforcement spent twenty percent of his/her time performing these activities. In 2002 the Code Enforcement Section expended \$9,400 supporting the Development Engineering Section in enforcement of the ordinance requirements.

In 2002, 7450 site development permits were approved. There were about one thousand more permits in 2002 than in 2001. This increase was due in part to a slight increase in single family building activity and it was also due to a slight change in when we require inspection fees. A site development permit is required whenever proposed construction triggers certain thresholds for the amount of clearing, amount of excavation, or amount of proposed impervious surface. These 7,450 permits covered projects as small as erosion control and storm drainage inspection for single-family home construction on up to stormwater conveyance, quantity, and quality facilities for subdivision or commercial project construction.



A total of 14,916 inspections on permitted projects were performed. This number reflects erosion control inspections, storm drainage system (conveyance, quality, quantity) inspections, and excavation inspections for single family, subdivision, commercial, and industrial projects. These 14,916 inspections can be further characterized as follows:

- 14,317 of these inspections were associated with projects permitted under the County's Stormwater Management and Site Development Ordinance.
- 11,920 of these 14,317 inspections were associated with single-family residential construction for both temporary erosion control and permanent drainage provisions. The remaining 2,397 were associated with commercial, industrial, short plat, formal plat, and large lot projects.
- 7,119 of the 14,317 total inspections required in association with the Stormwater Management and Site Development Ordinance were of temporary drainage and erosion control measures. The remaining 7,198 pertained to permanent site grading, drainage and site stabilization requirements.

A comparison of the total inspections performed in 2002 to the total inspections in 2001 indicates an increase in inspections by approximately 3500. This increase can be attributed to an increase in single family building activity, the addition of an additional inspector, and a more aggressive program of requiring reinspections.

In 2002 the enforcement arm of the Development Engineering Section received requests to investigate 368 problems/requests pertaining to drainage and erosion control. The following is a breakdown of the nature of these problems/requests:

- 351 - filling and grading
- 5 - flooding of private property
- 1 - flooding related to development
- 1 - blocked ditch
- 1 - potential site development violations
- 4 - runoff from construction site
- 1 - surface mining
- 4 - miscellaneous

Of these 368 problems/requests nineteen were on permitted sites, and eighty-three were not violations. Currently these problems/requests are in various stages of resolution. Two hundred and sixty nine of these problems/requests have been resolved. Ninety-one are still awaiting a field inspection and are considered active.

A review of our program indicates that the following areas are still problematic:

- Providing reasonable review timeframes.
- There are potentially a large number of violation sites that go unaddressed as we currently only respond to complaints, and there are violations that do not draw complaints.
- Bringing violation sites into compliance.
- Actual implementation of temporary erosion control measures by contractors in a timely fashion, especially when inclement weather is due.
- Implementation of the Annual Scope of Work portion of the Stormwater Management and Site Development Ordinance.

To summarize, the amount of time dedicated to implementing the Stormwater Management and Site Development Manual increased slightly in 2002, due to new expenditures for extra hire staff, and increased overtime usage. Slight procedural adjustments were made by our inspection staff to improve results in the field, but overall our program remained substantially the same as in 2001.

It is anticipated that our NPDES expenditures will significantly increase in 2003 as six additional staff positions were approved for the Development Engineering Section. These additional staff will be spending a significant portion of their time working on NPDES issues.

### **Groundwater and Shellfish Protection**

The Tacoma-Pierce County Health Department's Environmental Health Program activities in 2002 that related to the NPDES Permit included:

- The Environmental Health Program conducted a Recreational Shellfish Program in 2002 with financial and technical assistance from the Washington State Department of Health. Activities conducted included public education and Paralytic Shellfish Poison (PSP) monitoring and notification. Program staff continued to participate in a collaborative effort, initiated by the Washington State Department of Fish and Wildlife, to better work with and educate the Asian-Pacific-Islanders (API) community on recreational shellfish issues. This work included contracting with the Korean Women's Association for API youths to assist with PSP monitoring and educating the community about general shellfish issues. **FTE: 0.15 COSTS: \$12,400**
- The On-Site Sewage Operation and Maintenance (O&M) Program was revised in 2002 to increase the level of coverage and to have the level of protection better fit the need. A new requirement is that all on-site sewage systems must be inspected at the time of sale. Inspections are performed by certified personnel from private companies with review by the TPCHD. Property owners with simple systems (e.g. a gravity or pressure distribution system) will then periodically receive information on their system and the need for maintenance. Complex systems and those with a high strength wastewater flow must still be inspected every year. System as-built drawings,

brochures and other information is being distributed to system owners and users as part of a program to increase awareness of septic system issues. The new requirements are expected to greatly increase the coverage of the O&M Program. **FTE: 4.25 COSTS: \$380,000**

- The Environmental Health Program conducted a bathing beach sampling program during the summer of 2002 to assess health concerns to swimmers at seven public swimming beaches. Sampling was conducted every other week over the summer for E coli bacteria, water temperature, pH, conductivity, number of water fowl present, and number of swimmers present. The water quality results were generally good to excellent and no recommendations were issued by the TPCHD in 2002 restricting swimming at any of the public beaches. **FTE: 0.1 COSTS: \$8,000**
- The Long-Term Ground Water Monitoring Program continued in 2002, with a few changes. The number of wells being sampled by the TPCHD was increased slightly to provide a better baseline data set. The lead staff person for the program resigned in 2002 and the responsibilities have been assigned, at least temporarily, to existing staff. The program continued to record water quality, water level, and production data from approximately 140 wells throughout Pierce County and also track precipitation at a number of locations in the county. **FTE: 1.5 COSTS: \$106,000**
- The Environmental Health Program continued working on the Chambers-Clover Management Plan Project. This project, which is being conducted in three phases, will develop a comprehensive water plan for the Chambers-Clover Creek Watershed (WRIA 12). The project is building upon previous planning projects in the watershed and will work in close coordination with Pierce County's ongoing NPDES permit program, the Endangered Species Act response effort, and the nonpoint pollution control efforts (WAC 400-12). As of the end of 2002, the Planning Unit had nearly completed the Technical Assessment of existing conditions and was working on the third phase of the project. **FTE: 0.2 COSTS: \$165,310**
- The Environmental Health Program conducted shellfish protection work through funding from Pierce County Public Works and Utilities and through grants. Work conducted in 2002 included contaminant source identification and correction work in seven shellfish watersheds, taking the lead role on the Burley Lagoon Water Quality Protection Team, providing information on shellfish issues at fairs and events, and applying for and receiving a grant to perform shellfish protection work in the shellfish areas on Anderson Island. **FTE: 1.9 COSTS: \$152,443**
- The Environmental Health Program Code Enforcement staff responded to 1,075 solid waste complaints in 2002. The type of response varied, depending upon the nature of the complaint. The responses included

telephone calls, correction letters, and field inspections. A total of 1,806 correction letters were sent out to violators and/or property owners and 3,250 site inspections were conducted. Forty-seven (47) cases were referred to the Prosecuting Attorney for charging and 77 citations were issued for solid waste violations. **FTE: 4.5 COSTS: \$236,000**

- The Environmental Health Program continued implementation of Local Hazardous Waste Management Plan activities. These projects address "small quantity generator" (business) and household hazardous wastes. Work in 2002 included collaborating with the City of Tacoma and Pierce County on three hazardous waste collection events; these enabled over 1,000 area residents to properly dispose of their hazardous waste. Four additional used oil collection tanks were placed at area transfer stations; these sites received more than 17,000 gallons of used oil in 2002. Work on the EnviroStars Program, recognizing businesses for outstanding hazardous waste management practices continued; approximately 30 new businesses received EnviroStar designations during 2002. The Hazardous Waste Line continued operation throughout 2002, receiving 4,300 calls during the year. **FTE: 1.8 COSTS: \$166,000**
- The Environmental Health Program required surface water quality monitoring at several permitted solid waste handling facilities in Pierce County in 2002. The required water quality monitoring varies from stormwater discharges at industrial recycling operations to in-stream monitoring at municipal solid waste landfills. Additionally, stormwater run-on and run-off controls are required at all solid waste handling facilities in an effort to prevent negative impacts on water quality from the operation of these facilities. The requirements are imposed on the facilities through their conditional solid waste handling permits. The FTEs and Costs are very difficult to estimate because the above work is only one component of a much more comprehensive program.

### **Coordinated Water System Plan**

During 2002, Water Programs reviewed water system plans for consistency with the Pierce County Coordinated Water System Plan, processed requests for water service area adjustments, and participated in the community planning process currently being implemented by Pierce County Planning and Land Services. Staff has participated in the Central Puget Sound Water Supplier's Forum. The Forum is a cooperative effort of water suppliers and counties formed to address water supply planning, ESA response, water resource issues and public information needs regarding water supply. Water Programs also participated in "2514" watershed planning occurring in the Chambers-Clover Creek, Nisqually and Kitsap WRIAs. During 2002, Level I Technical Assessments for the Nisqually and Kitsap WRIAs were approved.

### **Annexations, Incorporations and Exemptions**

There were no incorporations in Pierce County in 2002.

Annexations were quite minor in 2002, with a loss of stormwater fee revenue amounting to only \$5,165.

You will notice a huge increase in the amount lost to exemptions over previous years. This is due to refinements in our ability to track smaller exempt parcels, and to the inclusion of the 85% exemption given to County roads and WSDOT. Exemptions included low-income seniors, churches, granges, community centers, tide lands, Indian Trust Lands, cemeteries, parks, Federal lands, and roads. The amount exempted was \$1,173, 459.

### **Change in Water Quality Status of Waterbodies**

Water Programs has worked cooperatively with TPCHD and Pierce County Conversation District to eliminate pollution sources in both the Rocky Bay and Burley Lagoon watersheds. Due to these efforts, Burley Lagoon has been partially re-opened for shellfish harvest and Rocky Bay has been upgraded. Filucy Bay on the Key Peninsula was downgraded for commercial shellfish harvest in August 2001, and Pierce County passed an ordinance creating a watershed protection district in February 2002. Actions have been underway since the middle of 2001 to improve water quality in Filucy Bay, and continued throughout 2002. Oro Bay on Anderson Island, and Vaughn Bay and Dutchers Cove on the Key Peninsula are potentially at risk for downgrade, and are being monitored by the Washington State Department of Health and the TPCHD. Ecology notified us that they are beginning TMDLs on Ball Creek and Red Salmon Creek, both in the Nisqually basin.

### **Industrial Inspection Program**

A total of 416 site visits were done. This includes visits to sites categorized as a particular land use type in our Assessor's database, but when we arrived at the site, nothing was there. A list of all sites visited is located in Appendix 1.

Maintenance agreements for new businesses, industries and developments as required by our Stormwater Manual were shifted from PALS to the Water Quality group. We logged them into our inspections database starting in 2001. Inspections of these facilities began in June 2002, and they are included in the above total. Our inspectors worked cooperatively with Ecology inspectors on several cases (we do not track these separately). Typically, the Ecology inspector calls our inspectors when a non-emergency problem has been reported in the County, and our personnel check out the report and do a site visit, following up with Ecology.

Water Programs inspectors responded to 11 water quality complaints called in directly to the County.

### **Monitoring Program**

As described in the **Assessment of Stormwater Program Needs** section above, Pierce County has a number of detailed basin plans in various stages of completion. As basin plans close their data collection phase by consultants, Water Programs Water Quality Section staff step in to do long-term monitoring at many of these sites, thus increasing our workload to a great degree. The variety of types of monitoring also expanded.

Groundwater level monitoring in support of Capital Improvement Projects continued monthly throughout the year. We continued to monitor 13 Department of Ecology piezometers in the Muck Creek Basin.

Precipitation monitoring at five stations within the County continued throughout 2002. Our raingauge data is now available on the Internet.

Biological Index of Benthic Integrity (BIBI) monitoring was done in twenty creek segments across the county.

Flow and temperature monitoring for 3 basin plans (Muck Creek, Clover Creek and Gig Harbor) were turned over to County staff, and monitoring started in the Clear/Clarks and Mid-Puyallup basins.

Fecal coliform monitoring in connection with the shellfish downgrades at Rocky Creek, Filucy Bay and Burley Lagoon were conducted as storms were available in 2002.

Water Programs also monitored 3 Snotel systems for snowpack during the winter months.

A table of monitoring sites is listed in Appendix 2.

As required each year, personnel did an end-of-pipe check on each outfall in unincorporated Pierce County during the dry summer months. The table of locations and results is in Appendix 3.

### **Education Program**

Most of the resources described in this report can be broken down into four funding categories.

Water Resources Education: \$127,000

Household Hazardous Waste Collection Programs: \$206,000

Solid Waste/General Environmental Education & Outreach: \$749,000

Illegal Dumping and Prevention Outreach: \$363,000

Total Expense: \$1,445,000

### Source of Funds

Pierce County Water Programs & Sewer Utility: \$131,000

Pierce County Solid Waste Division: \$741,000

Department of Ecology Coordinated Prevention Grant: \$573,000

The preceding excludes:

- 1) the cost of the yard waste collection and composting systems (described herein); and
- 2) management, administration or overhead costs associated with the Water Resources Education and Solid Waste/General Environmental Education programs.

### **Environmental Education Overview**

Four educators on staff provide education and resources to Pierce County residents. In 2002, they gave classroom presentations, guided field studies, provided consultation services, workshops, trainings, loaned educational resources and equipment, and were invited to, and helped plan, community events. Six hundred eighty outreach efforts reached almost 20,000 Pierce County residents, not including the Spring and Puyallup Fairs, and other large-scale programs such as the Electronics Recycling Event.

A description of the resources referenced above follows:

#### **Classroom Presentations**

A selection of environmental presentations is provided for K-12 classrooms, home schoolers, scouts and day camp participants. Each presentation is designed to actively engage students in the topic by encouraging students to discuss the kinds of choices they can make to reduce waste and prevent pollution.

The following presentations were offered:

#### **No Time to Waste**

The presentation focuses on where our garbage goes, the elements of a modern landfill, and practical techniques for reducing the amount of garbage that is landfilled (i.e., recycling, precycling and composting) are discussed. Students receive brochures on these topics and teachers are provided with additional curricula and background materials.

#### **Compost Critters**

This presentation goes more in-depth about composting, both yard waste and worm composting. Students identify the critters that aid in composting and what food scraps are appropriate to place in a worm bin.

### **Hazards in the Home**

This presentation covers household hazardous products and their alternatives. Students will understand terms on a product label, and how hazardous chemicals can enter our bodies and the environment. Proper disposal and product alternative information is derived from a hazardous waste information wheel.

### **Bite of the Finite**

A role playing game that introduces students to the finite nature of natural resources, as well as the uneven worldwide distribution of these resources. Students simulate mining forays to gather mostly metal resources, and after spending time and energy doing this, find that most of these resources end up in landfills.

### **Water In, Water Out**

Where does our water come from that we use in our communities, and where does it go after we use it? These questions are answered as students are introduced to water basics--the water cycle in reference to our water use--tracing the path of our domestic water supply from aquifer, use, discharge and treatment. Students learn about septic systems or wastewater treatment plants, depending upon what system is used in their school area.

### **Water We Doing?**

Students switch perspective from human to salmon in this presentation to discover how our everyday activities may affect aquatic wildlife. Ways to reduce nonpoint pollution and establish simple, good habits are discussed. Students receive handouts and teachers receive curricula on water topics.

### **Watersheds and You**

This interactive program exposes students to the dynamics of land and water that define a watershed. They learn about human activities that affect watershed processes that are vital to our community's ecological health. Students and teachers receive materials on water topics.

### **Benthic Macroinvertebrates**

Students learn about aquatic bugs, the roles they play, why they're important, their life cycles, and why they are water quality indicators. The presentation can include using cards to learn about metamorphosis, and viewing either preserved or live samples.

### **Field Investigations**

Because it is easier to teach about the environment when you can get people outdoors interacting with nature, the educators provide opportunities for students, teachers and citizens to participate in field work and stewardship activities. Students learn how to collect and test water samples for a variety of pollutants. They discover how to assess the health of a stream by studying the kinds of aquatic insects they find in it. And they learn that observing things at the site is



one of the best techniques for gaining information. Most consultations are for some type of field work and planning.

#### **ADULT WORKSHOPS**

##### **Project WET and Project WILD: *aquatic* Workshops**

These workshops are offered to teachers and other youth instructors. The two national curriculum guides are filled with hands-on, water-related activities that provide opportunities to learn about all aspects of this valuable resource, and to encourage investigation into local issues. In 2002, the educators helped facilitate a teacher in-service day workshop, where all teachers from Peninsula School District chose one particular workshop. Eight teachers received lessons from these two resource guides, as well as the Forests of Washington activity guide.

##### **GIS Workshops**

These workshops are also for teachers and curriculum directors. Pierce County Environmental Services partnered with Pierce County Information Services to initiate the Geographic Information Service (GIS) workshops in 2000. ESRI Inc., the maker of ArcView software, has allowed Pierce County to make available to school districts older versions of the software as Pierce County purchased updated versions. The software combines the power of a database with the visualization capabilities offered by maps. Workshop participants receive a CD with existing County data, but creating their own data allows users to interact with the maps more significantly than just adding or subtracting existing layers of data. There were no workshops in 2002, but the educators made contacts with teachers interested in the software, and plan to hold at least one workshop in 2003.

##### **Worm Composting**

This workshop was offered thirteen times in 2002 through Tacoma Community Colleges in Tacoma and Gig Harbor, Pierce College in Puyallup, and the Tacoma Community in Schools program. Each session attracted from 15 to twenty-five participants who learned how to set up and maintain a worm bin to reduce kitchen waste. The resulting worm compost can be added to the soil as an organic fertilizer, reducing the dependence on chemical fertilizers and pesticides, and helping to retain soil moisture.

#### **OTHER OUTREACH EFFORTS**

##### **Educational Resources and Equipment for Loan**

Many of the resources available for checkout were purchased with Centennial Clean Water Fund grant money. Since the grant has been completed, we no longer track exactly how many teachers, students and citizens check out the various resources, but a consistent, if not abundant, number of people continue to use the resources. Among the resources available are videos, resource books, curriculum guides, water quality testing kits, macroinvertebrate sampling kits, and activity kits such as storm drain stenciling kits, "The Incredible Journey," and groundwater and Enviro-scape models.

### **Benthic Index of Biological Integrity (B-IBI)**

The B-IBI is a sampling method to assess water quality using biological indicators, namely, benthic macroinvertebrates. Partners in this endeavor in 2002 included the Pierce Conservation District, the City of University Place, and the Puyallup and Nisqually Tribes. Water Programs became the lead agency for this program in 2001 and has incorporated it into its overall monitoring program. Nineteen streams were sampled in 2002. Pierce County Environmental Services is developing a basin summary, for each stream, of existing conditions based upon the results of the B-IBI sampling, and is very close to putting the summaries on its website so citizens can have access to this information.

### **Western Washington Fair**

The Pierce County Solid Waste Division's **GreenHouse** continued incorporating water conservation displays into the house and landscaping in 2002. Two water collection systems were shown: a simple rain barrel and a water collection cistern for roof runoff. Also displayed were drip irrigation systems and micro-sprinklers, as well as the water- and electricity-saving home appliances shown annually. Approximately 200,000 of the 1.2 million fairgoers walked through the exhibit.

### **Puyallup Spring Fair**

Pierce County Solid Waste Division and organizations from both the public and private sector came together to bring fun, interactive, hands-on activities, to educate people about some of today's most pressing environmental issues. The 7,400 square foot exhibit included the Environmental Shopping Game, the Environmental Wheel, the game *Who Wants To Be A Recycler?*, and the Salmon Survival Game, where participants travel downstream towards Puget Sound as salmon fry and encounter many of the ways in which people unknowingly degrade water quality and salmon habitat. Children of all ages created spring hats and worm bins from recycled items. Our sustainable home setting featured products made from recycled materials, energy-efficient appliances, and compact fluorescent lights. The exhibit also featured natural gas and electric vehicles. The Puyallup Spring Fair was attended by more than 90,000 people.

### **Electronics Recycling Event**

On May 11th and 12th, 2002, Pierce County had its first Electronics Recycling Event. The event was co-sponsored by the City of Tacoma's Solid Waste Management Division and the Pierce County Solid Waste Division. Eighty-seven tons of computers, monitors, printers, televisions, VCRs, and all kinds of other electronic and electrical gadgets were collected from 1,800 vehicles. The event was put together with the understanding that many people have and will upgrade a tremendous amount of computers, televisions, and other electronic equipment, not only causing a potential water quality problem if landfilled (lead contamination), but also losing a tremendous amount of precious metals. Many of the best computers were donated to local school districts so they could be upgraded by students and be utilized within the district.

### **Pierce County Solid Waste Newsletter**

Each of the three Waste Reducers newsletters (Spring, Summer and Winter editions) were sent to approximately 200,000 single-family and multi-family residences in Pierce County during 2002. Topics included: Pierce County Responds - our new aggressive program to resolve illegal dumping issues, the education presentations referenced above, the recycling and disposal resource guide on our website, Bag Hunger canned food drive, the Electronics Recycling Event, Parks Appreciation Day, Nature FEST, living Green at the Puyallup Fair - The **GreenHouse** Exhibit, earth-friendly holiday tips, winter road preparedness, and information about the County's plans for reducing its flooding problems. The newsletter will continue to be a valuable way to get information about water issues to Pierce County citizens.

### **Household Hazardous Waste Management**

Pierce County and the City of Tacoma continue to partner in the collection of household hazardous wastes. County residents have access to Tacoma's permanent facility. In addition, Pierce County partnered with Tacoma and the Tacoma-Pierce County Health Department to provide two satellite household hazardous waste collection events in Key Center and the Bonney Lake/Buckley area. These efforts resulted in collecting 194,760 pounds of materials from 4,869 residents in 2002.

### **Household Hazardous Waste Information Line (253) 798-4115**

Our automated phone line gives information on how to safely dispose of hazardous household wastes in Pierce County. In 2002, 335 people used the phone line as a resource.

### **Yardwaste Composting Program**

Pierce County provides curbside collection and self haul options for yard waste. In 2002, the County's contractor made the decision not to keep track of the amount of yard waste processed in the program, but it continues to be a valuable method of not only saving landfill space, but also creating another recycled resource, as the resulting compost is available at local landscaping supply companies.

### **Pierce County Responds**

Pierce County launched a major initiative during 2002 which provides a comprehensive response to the problem of illegal dumping of waste and nuisance vehicles. Pierce County Responds brings together staff and resources from Pierce County Public Works & Utilities, Planning & Land Services, the Sheriff, the Prosecuting Attorney, and the Tacoma-Pierce County Health Department. Pierce County Responds receives and investigates complaints about illegal dumping, recommends cases for prosecution, organizes volunteer cleanups, and educates citizens on safe and proper recycling and disposal methods.

Among the more significant achievements this past year were the removal of scores of junk cars from a property adjacent to, and which drained into, Glen Cove. Another major victory was the closure of an illegal recycling business and landfill abutting one of the headwaters of Fennel Creek. The property owner is serving a 30-month jail sentence and Pierce County – which acquired the parcel through tax foreclosure – will remove all waste from the property in the summer of 2003.

## WEBSITE INFORMATION

### **The Green Book**

This directory of environmental education opportunities in Pierce County is becoming known as a valuable resource for formal and informal educators who are planning environmental curricula and are looking for speakers, resources, and field trips. The *Green Book* includes sections on Ecology & Habitat, Zoos and Parks, Natural Resource/Waste Reduction, Water, Watershed Groups, Volunteer Opportunities, and Teacher Resources. The *Green Book* is on the County's Environmental Services website, with a number of directories being distributed to schools, libraries and agencies in Pierce County.

### **Environmental Services Website --**

**[www.piercecountywa.org/services/home/environ/index.htm](http://www.piercecountywa.org/services/home/environ/index.htm)**

Pierce County Environmental Services now provides a variety of information on its website. All of the separate departments within Environmental Services list their programs, plans, and ongoing efforts to keep water clean. They also provide opportunities for citizens to participate in these efforts with information and links to volunteer organizations and planning groups. The website provides tips on how individuals can reduce their impacts on the environment: information on nonpoint pollution, alternatives to hazardous products, green gardening, and with the Recycling and Resource Disposal Guide, citizens can get information on where to recycle difficult wastes such as construction/demolition debris and automotive oil and anti-freeze.

## **Operation and Maintenance of Stormwater Facilities (Water Programs)**

### *Pond Maintenance*

In 2002, 147 ponds were maintained. Maintenance activities include, but are not limited to, structure repair and/or upgrades, clearing, grading, sloping, excavation, vegetation management, mulching, fencing, hydroseeding, and trash control. Total cost was \$634,755.

### *Creek Maintenance*

In 2002, crews performed maintenance on 3 creeks and 10 ditches in unincorporated Pierce County. The work consisted primarily of vegetation management and/or silt removal from designed traps. The work was performed by County maintenance crews, as well as our District Court Probation/Detention crews at a cost of \$63,385.

### *Drainage Concerns*

Drainage concerns called in to the County's Flooding and Storm Drainage Concerns phone number (253-798-4274) are entered onto the Service Response System database, and delegated to the proper department for action. The numbers listed below reflect only complaints handled by Water Programs.

Please see **Operation and Maintenance of Streets and Roads** and **Controlling Runoff from New Development and Redevelopment** for the SRS information for Roads and PALS. Water Programs handled:

126 drainage concerns logged

123 visited

99 closed with resolution

9 closed without resolution

15 remain active

### *Small Works Projects*

Water Programs Maintenance Section conducts a Small Works Program for projects that are in need of attention, but too small to qualify as regional facilities under our Capital Improvement Program. In 2002, \$334,463 was spent on these projects to improve storm drainage conveyance and improve water quality.

### *Vegetation Control (Riverine Area)*

Vegetation control is multi-benefit. We must keep access-ways clear of unruly and/or non-indigenous vegetation for maintenance crew activities, as well as for avoidance of structural damage to the levee and flood abatement structure. This work must be accomplished with compliance to Tribal agreements and regulatory codes, while also maintaining vegetation that is conducive and beneficial to the fisheries resource. This work continues on a yearly basis.

In Summer 2002, a full crew was dedicated to pulling and disposing of noxious weeds along the Puyallup River System. The crew also performed vegetation management in 58 ponds.

### *Detention Crew*

In 2001, Pierce County Water Programs utilized jail crews to assist in pond clearing and brushing, trash pickup, demolition and disposal of floodprone homes and property, fence construction, creek and ditch clearing and/or enhancement. The total cost was \$85,000, with an actual man-hour value (at \$12 per hour) of \$194,496.

### *River Maintenance*

In 2002, Pierce County Water Programs crews performed levee repair and maintenance, concrete armor cleaning, brush cutting and access road maintenance. Miscellaneous activities, such as signage, access restriction, trash control, and gate repair were also done at acquired floodplain properties.

## **Operation and Maintenance of Streets and Roads**

Vegetation Management: Pierce County uses the Integrated Vegetation Management approach to control roadside vegetation. Control options that decrease the use of pesticides are explored on an annual basis. In addition, coordination between mechanical and chemical treatments has increased which makes both treatments more effective.

Endangered Species Act: Pierce County Road Operations has implemented a road maintenance program that is compliant with federal mandates for protection of listed species. Pierce County Road Operations has developed this program in conjunction with the National Oceanic and Atmospheric Administration (NOAA) Fisheries, the United States Fish and Wildlife Service (USFWS), and other government entities involved in Road Maintenance in the Puget Sound region. The program has been finalized by and approved by NOAA fisheries and is expected to be approved by the USFWS within the next couple months. This program will protect and improve water quality which will contribute to the recovery of listed aquatic species. The program will require the implementation of the program elements listed below in order to obtain 4(d) coverage under the Endangered Species Act:

- 1 Regional Forum
- 2 Program Review and Approval
- 3 Training
- 4 Compliance Monitoring
- 5 Scientific Research
- 6 Adaptive Management
- 7 Emergency Response
- 8 Biological Data Collection
- 9 Biennial Reporting to NMFS and USFWS
- 10 Best Management Practices and Conservation Outcomes

Training: A comprehensive training program is a requirement of the road maintenance program approved by NOAA fisheries and the USFWS. The two primary goals of the training are to ensure that road maintenance staff understand the program and are aware of their roles and responsibilities in protecting and improving water quality. The training program was developed in cooperation with the University of Washington and covers the following areas:

- 1 Maintenance Project Design and BMP's
- 2 Maintenance Project Permitting
- 3 Maintenance Project BMP monitoring and responsibilities
- 4 Field Crew BMP Implementation and Responsibilities
- 5 Train the Trainer Courses for Technical Class Tracks
- 6 Train the Trainer for Field Crew Courses

To date, over 70 persons have been through this training and 100 more are expected to be trained this year.

Work Order System: Pierce County Road Operations has developed a checklist system where any road maintenance activity in water or that has the potential to adversely affect sensitive areas is reviewed by environmental staff within Road Operations before it starts. Maintenance activities are being timed so that those activities with the greatest potential to degrade water quality are being rescheduled for the summer months. This system will also allow road maintenance staff to track the number of jobs in water, the number of jobs that disturb soils, and the number jobs that required permits.

## 2002 MAINTENANCE FUNCTIONS

This was our second year operating under the ESA rules

Function	Planned	Actual	Spent \$
Ditching with Backhoe (In feet)	23,661	22,133	\$103,926.95
Ditching with Drott (In feet)	6,800	300	\$3,966.98
Beltloading (Per mile)	38	0	0
Manually Clean Culvert Ends (Each)	9,118	2,108	\$15,716.95
Mechanically Clean Culvert Ends (Each)	1,062	666	\$20,012.70
Grate Tops Cleaned (Each)	1,635	1,545	\$9,004.24
Mechanically Clean Catch Basins (Each)	4,995	7,211	\$116,119.38
Jet Rodding (Linear Feet)	117,492	52,152	\$97,597.85
Repair/Replace Culvert Pipe (Linear Feet)	4,105	4,302	\$262,793.84
Repair/Replace Catch Basin (Labor Hour)	759	133	\$143,454.15
Repair/Replace Drywells (Labor Hour)	621	32	\$84,151.10
Erosion Control Repair (Labor Hour)	2,866	1,550	\$8,179.31
Holding Ponds (Each)	10	0	\$946.67
Ditching with Ditchmaster	275	77	\$135,722.04
Misc. Drainage Repair	6,982	10,488	\$481,245.16
Self Contained Street Sweeping	4,056	3,006	\$320,253.72
Litter Removal	118	200	\$375.22

**SRS Service Response System:** With changes in the focus of Road Operations in 2001, we have seen a drop in citizen generated complaints in 2002. In 2001, we had a total of 148 addressed by Road Operations with 76 situations corrected. In 2002, we have seen a downward trend as we implement the inspection and work order maintenance program.

Per the reports generated by the SRS system, in **2002** we:

**Received 101 drainage concerns**  
**Closed 205 drainage concerns**

The reason for the discrepancy in closing more that were received is due to concerns from previous years that were not resolved until 2002.

*Vector Stations:* Pierce County Road Operations completed another Vector Decant Facility in 2002. This facility was developed in coordination with the Tacoma-Pierce County Health Department to properly control, test, and recycle vector wastes generated by our maintenance activities. Annual reports are submitted to the TPCHD in order to ensure proper operation, and renew the permit for operation for the next year. Currently, Pierce County is operating 2 stations. The latest task for the Tri-County ESA roads forum has been to meet with Ecology and the local health departments to develop a vector soils reuse policy. Pierce County has been participating in that discussion. It has brought up an interesting question, based on what Ecology Solid Waste employees have stated, and that is, if the local health authority has to adopt the current Ecology regulations (or more stringent) for solid waste, and is the local agency for enforcing said regulations, why is there any mention of vector wastes in the NPDES stormwater permit? We will be asking this question when we resume negotiations on our Phase 1 permit.

#### **Watershed-wide Coordination Activities**

The Phase 1 permittees continued to meet as necessary to discuss permit drafts, monitoring, mapping and legislative issues. Pierce County continued to be active in all aspects of the Tri-County process, and we are lead entity for the 2496 salmon recovery process. Watershed councils are active in all watersheds in the County. County personnel also participate in the 2514 process.

#### **Adequate Information to Conduct Planning, Priority Setting and Program Evaluation Activities**

*Mapping.* Mapping activities relating to floodplains were described under **River Activities** above, and were valued at \$1.2 million for 2002. Utility funds continued to support the drainage system inventory and periodic aerial re-flights of the County.

Water Programs continues to employ one technician working full time on maps for drainage inventory, CIP projects, basin plans, watershed plans, monitoring sites for water quality and water quantity, and for special projects or requests. Water Programs also continues to pay a large share (>300,000) to the GIS Division for upkeep of GIS coverages. This does not include upkeep of the new drainage maps, which were completed in 2002. Roads, Water Programs, and Information Services have a dedicated field crew to field check and map new features (public and private facilities) as they are built.

#### **Pesticide Management**



### *Fertilizer and Pesticide Use*

2002 showed Pierce County Parks and Recreation continuing to improve in the tracking and recording of fertilizer and pesticide usage. There are still more improvements in our recording process we will implement next year.

We made the commitment to use appropriate materials as minimally as possible, and more importantly, as professionally as we possibly can. We do this while still fulfilling our mission "to provide well maintained and functional park facilities." We plan to continue that commitment.

Last year saw a significant decrease in the use of fertilizer and Round-up, even though we added athletic fields and extended some trails in our system

We spend significantly more time and money in training in this particular area than in any other area of our profession.

Our profession and material suppliers continue to work hard at improving materials, standards, and techniques.

As professionals in an industry that is scrutinized in this area, we take very seriously the stewardship of our facilities and their use and enjoyment by the public we serve.

Tables of our application practices, chemical usage and training activities follows:

#### **PIERCE COUNTY PARKS Pesticides and Fertilizers**

2002

	Total Acres	Treated Acres	Times Applied Per Year	Total Applied Per Year		Description of Treated Areas
					Meas.	
<b>PARKS DIVISION</b>	<b>1962.6</b>	<b>78.0</b>				
<b><u>Fertilizer 18-3-18 30% SCU</u></b>						
Dawson Playfield	5	4.0	2	1,200.0 lbs		Mowed grass areas
Ft. Steil. Park (house/picnic/fields)	343	23.5	3	5,450.0 lbs		Sports fields
Frontier Park	80	10.0	5	900.0 lbs		Mowed grass areas
Gonyea Playfield	14	11.5	4	7,000.0 lbs		Mowed grass areas
Lake Tapps Park	80	4.5	2	1,000.0 lbs		Mowed grass areas
Lake Tapps (Scotts Turf Builder)		0.5	4	280.0 lbs		Residence & concession lawns
Lidford Playfield	10	7.0	2	2,000.0 lbs		Mowed grass areas
Western State Ballfield	4	3.5	3	1,500.0 lbs		Ballfields
Spanaway Park	135					
Spanaway #4 PL Bank		0.3	1	50.0 lbs		Formal lawn areas
Spanaway House		0.3	2	50.0 lbs		Formal lawn areas
Spanaway Park-Phy Fit		10.0	1	750.0 lbs		Mowed grass areas
Spanaway Park - Islands		2.0	2	300.0 lbs		Formal lawn areas
Spanaway Park-Entrance		1.0	2	200.0 lbs		Formal lawn areas

#### **Herbicides**

<b><u>Round-Up Pro (1oz/128oz)</u></b>							
Dawson Playfield		2	0.7 gal	Fence lines, curbs, picnic area			
Frontier Park		9	5.0 gal	Fence lines, walkways, & roads			
Ft. Steilacoom Park		3	0.7 gal	Athletic field lining, curbs, pathways			
Ft. Steilacoom Park		3	0.3 gal	Spot spray parking lot, bleacher area			
Gonyea Playfield		2	0.2 gal	Fence lines, edge curbs, sidewalks, etc.			
Lake Tapps Park		2	4.0 gal	Curbs, parking lot, road edges, walkways			
Lake Tapps Park		1	1.0 gal	Spot spray noxious weeds			
Mayfair Playfield		1	0.1 gal	Parking lot & fence line			
Lidford Playfield		1	0.05 gal	Curbs, baseball field, fence line			
Orange Gate Property		1	0.1 gal	Spot spray for Tansy Ragwort			
Spanaway Park	2.5 Miles	1	10.0 oz	Fence Lines & Curbs			
Wash Rack Area		1	3.0 oz	Spot spray poison hemlock			
Flower Bed (Mix w/Surflan)	0.0	1	8.0 oz	Weeds (6oz Roundup/2oz Surflan)			
Trail - McMillin Trailhead/outside		2	18.0 oz	Trail edges, poison hemlock			
Orting							
Western State Ballfield		2	0.3 gal	Athletic field lining, fence lines			
<b><u>Surflan</u></b>							
Gonyea Playfield		1	3.0 oz	Along curbs			
<b><u>Weedmaster</u></b>							
Swan Creek		1	3.0 oz	Parking lot, spot spray poison hemlock			
<b><u>Crossbow</u></b>							
Ft. Steilacoom Park	100 sq ft	1	0.4 gal	Spot spray poison hemlock			
<b><u>Tordon</u></b>							
Ft. Steilacoom Park		2	30.0 oz	Paint on laurel hedge & tree stumps			
<b><u>Moss Out (Liquid &amp; Granular)</u></b>							
Lake Tapps (8 oz/gal)		1	0.06 gal	Residence & concession lawns			
Spanaway Park		1	144.0 oz	House roof			
Frontier Park		2	384.0 oz	11 Buildings Roofs (33,504 sq ft)			
<b>GOLF DIVISION</b>							
	<b>160</b>	<b>60.0</b>					
<b>Fort Steilacoom Golf Course</b>	<b>55</b>	<b>14.0</b>					
<b><u>Fertilizers</u></b>							
18-3-18 Large Prill	12.0	5	6,000.0 lbs	Fairways			
18-3-18 Med Prill	1.0	5	1,250.0 lbs	Tees & surrounds			
18-9-18 Small Prill	0.5	8	1,000.0 lbs	Greens			
18-3-18 Med Prill	0.5	5	625.0 lbs	Greens surrounds			
Pro Scape 14-2-14	0.5	5	500.0 lbs	Greens			
Spreader/Sticker R11	0.5	6	62.0 oz	Greens			
<b><u>Fungicides</u></b>							
Fore Flowable	0.5	5	2.5 gal	Greens			
Daconil 2787 or Cleary's 3336	0.5	5	2.5 gal	Greens			
<b><u>Herbicides (gal/acre)</u></b>							
Round-Up Pro	0.3	2	37.0 oz	Fairways & Irrigated Roughs			
<b>Lake Spanaway Golf Course</b>							
<b><u>Fertilizers</u></b>							
18-3-18 Large Prill	60.0	2	8,000.0 lbs	Fairways & Irrigated Roughs			
18-3-18 Medium Prill	3.5	3	2,200.0 lbs	Tees & surrounds			
Pro Scape 14-2-14	3.5	2	1,200.0 lbs	Greens			
Anderson 10-0-14		1	480.0 lbs	Tees			
Anderson 18-6-15		3	1,912.5 lbs	Greens & Tees			
Anderson 23-1-10		1	350.0 lbs	Temporary Greens			
Contec 17-3-17	3.5	1	700.0 lbs	Greens			
Supertrace w/40% iron	3.5	2	20.0 gal	Greens			

Blocker 4F	3.5	1	10.0	gal	Greens
Bioturf	3.5	1	12.0	gal	Greens
Opti-Gro Liquid 25-2-3+minors or Liq. Aide 25-0-0+Duralizer or 0-0- 20	3.5	6	55.0	oz	Greens & surrounds
Opti-Gro Iron Aide (Fe) & Soil Aide	3.5	4	30.0	gal	Greens & surrounds
Flourish 5-20-10	3.5	1	5.0	gal	Greens
Micro Treat	3.5	2	220.0	gal	Greens
Sticker Activator R11	3.5	3	144.0	oz	Greens & surrounds

#### Herbicides

Bayleton 50 Wettable	3.5	1	5.5	lbs	Greens
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#### Fungicides

Fore XL Flowable	3.5	3	15.0	gal	Greens
Cleary's 3336	3.5	1	5.0	gal	Greens
Chipco 26GT	3.5	2	15.0	gal	Greens
Knife 12-0-0	3.5	1	5.0	gal	Greens
Heritage	3.5	1	1.5	lbs	Greens
Dithane	3.5	2	17.5	gal	Greens
Pro Turf Fluid Fungicide	3.5	1	7.5	liters	Greens

<b>REC CENTERS DIVISION</b>	<b>108.5</b>	<b>23.6</b>			
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#### Fertilizers

18-3-18	19.1	4	13,400.0	lbs	Sports fields & formal lawns
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#### Herbicides

Round-Up Pro (2oz/gal) / SRC	2.0	2	4.0	gal	Fence lines, parking lot
Round-Up Pro (2oz/gal) / LCC	2.5	2	2.5	gal	Spot spray for weeds-beds,parking lot

<b>GROUNDS DIVISION</b>	<b>80</b>	<b>37.4</b>			
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#### Fertilizers

18-3-18 30% SCU	6.4	20	13,145.0	lbs	Formal lawns
Best 9-9-9	4.8	4	4,105.0	lbs	Perennial flower beds & roses
Calpril (Soil Amendment)	4.1	1	2,975.0	lbs	Formal lawns

#### Herbicides

Mec Amine-D Turf	4.2	3	0.1	gal	Hard surfaces, formal lawns, spot spraying
Round-Up Pro	25.8	6	2.1	gal	Curbs, pavements, beds, spot spraying
Surflan A.S.	2.6	3	2.04	gal	Hard surfaces, edges
Scythe	23.6	2	0.83	gal	Hard surfaces, bedding areas

<b>Total Acres / Treated Acres</b>	<b>2366.1</b>	<b>213.0</b>			
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<b>Parks</b>	1962.6	78.0
<b>Golf Courses</b>	215.0	74.0
<b>Recreation Centers</b>	108.5	23.6
<b>Grounds Division</b>	80.0	37.4

<b>Total Regularly Maintained</b>	<b>741</b>
<b>Total Minimally Unmaintained</b>	<b>1625</b>

**PIERCE COUNTY PARKS - 2002  
TRAINING**

<u>Training Received</u>	<u># Hours</u>	<u>Course Cost</u>	<u>Avg.Salary</u>	<u>Total Cost</u>
<b>Pesticide Classes</b>				
Parks Employees (9)	136	595.00	28.76	4,505.76
Golf Courses (5)	88	385.00	26.87	2,749.21
Grounds (5)	80	350.00	24.27	2,291.76
Cost of Study Materials		10.22		10.22
<b>Integrated Plant Health Management (pesticide credits)</b>				
Parks Employees (2)	48	300.00	24.34	1,468.32
Golf Courses (2)	48	300.00	28.19	1,652.88
<b>Athletic Field/Sport Turf Workshop</b>				
STMA - Parks Employees (7)	56	140.00	24.44	1,508.64
WSU/OSU - Parks Employees (4)	20	80.00	28.92	658.35
WSU/OSU - Golf Employees (5)	25	100.00	29.44	836.10
<b>Northwest Turfgrass Assoc Conference</b>				
Rick Hults	32	580.33	38.43	1,810.09
Andrew Soden	24	708.73	37.99	1,620.49
Toby Lirot	24	200.00	28.76	890.24
Scott Tyson	24	200.00	27.61	862.64
<b>NRPA Public Golf Course Mgmt</b>				
Andrew Soden	32	1,292.10	37.99	2,507.78
<b>Washington Turf &amp; Landscape (Pesticide credits)</b>				
Andrew Soden	16	110.00	37.99	717.84
Becky Little	16	110.00	26.43	532.88
Bob Cady	16	110.00	31.19	609.04
<b>WWGCSA Crew Seminars</b>				
Andrew Soden	24	140.00	37.99	1,051.76
Toby Lirot	8	30.00	28.76	260.08
Rick Lewis	8	30.00	11.00	118.00
Scott Tyson	16	85.00	27.61	526.76
Greg Bolender	8	35.00	10.00	115.00
David Harper	8	35.00	28.61	263.88
<b>TOTALS</b>	<b>757</b>	<b>\$5,926.38</b>		<b>\$27,567.71</b>

**Pierce County  
Parks & Recreation**

<b>Property</b>	<b># Acres</b>	<b>Maintained</b>	<b>Unmaintained</b>
<b>Parks</b>			
Chambers Creek Park	195.4	-	195.4
Crescent Lake Park	2	-	2.0
Dawson Playfield	5	5.0	-
Foothills Trail	363	-	363.0
Fox Island Ferry Landing	0.5	-	0.5
Fox Island Fishing Pier	5.5	5.5	-
Frontier Park	80	50.0	30.0
Ft Steilacoom	343	80.0	263.0
Gonyea Playfield	14	14.0	-
Grandview Trail	3.7	3.7	-
Hales Pass Comm. Ctr.	4	4.0	-
Half Dollar Park	3	-	3.0
Herron Point	1.5	-	1.5
Lake Tapps North	80	80.0	-
Lidford Playfield	10	10.0	-
Mayfair Playfield	4	4.0	-
Narrows Property	36	2.0	34.0
Old Settlers Cemetery	2.5	2.5	-
Orangegate Property	160	-	160.0
Parkland Habitat	4.5	-	4.5
Peninsula	22	-	22.0
Recreation Area			
Powerline (Cushman) Trail	9.5	-	9.5
Purdy Sand Spit	7.5	-	7.5
Puyallup River Levee Trail	54.5	-	54.5
Rimrock Park	140	-	140.0
Riverside Park	50	-	50.0
Rosedale Playfield	2	2.0	-
Seeley Lake	48	-	48.0
South Hill Park	40	-	40.0
Spanaway Park	135	135.0	-

	<b>Total</b>	<b>Treated</b>
<b>Total Acres / Treated</b>	<b>2366</b>	<b>213</b>
<b>Parks</b>	<b>1962</b>	<b>78</b>
<b>Golf Courses</b>	<b>215</b>	<b>74</b>
<b>Recreation Centers</b>	<b>109</b>	<b>24</b>
<b>Grounds Division</b>	<b>80</b>	<b>37</b>
<b>Total Acres</b>	<b>2366</b>	
<b>Total Maintained</b>	<b>741</b>	
<b>Total Unmaintained</b>	<b>1625</b>	

Spanaway Park

Sunrise Beach Park	82	6.0	76.0
Swan Creek	40	-	40.0
Towhead Island	1	-	1.0
Boat Launch			
Tule Lake-Hope 3	3.5	-	3.5
Project/Park			
Western State	4	4.0	-
Ballfield			
Wilkeson Creek	6	-	6.0
Park			
Subtotal	1962.6	407.7	1,554.9
<b>Rec Centers</b>			
Bresemann Forest	70	-	70.0
Lakewood Comm.	3.5	3.5	-
Ctr.			
Sprinker Recreation	35	35.0	-
Center			
Subtotal	108.5	38.5	70.0
<b>Golf Courses</b>	215	215.0	-
<b>Grounds</b>	80	80.0	-
<b>TOTALS</b>	2366.1	741.2	1,624.9

#4 Parking Lot Bank	0.25
House	0.25
Islands	2
Physical Fitness	10
Curbs, fenceline, pathways	2.5 miles

### **Conservation Futures Program**

The Conservation Futures Program consists of moneys collected from each property in the County to purchase and preserve noteworthy properties.

The Pierce County Conservation Futures Citizens' Advisory Board reviewed property nominations, and makes the following findings and conclusions:

Project Name	Findings and Conclusions
Number 1: Muck Creek Patterson Springs	
Sponsor	Cascade Land Conservancy
Title to be held by	Cascade Land Conservancy
Parcel size	Approximately 80 acres
Parcel number	04-18-20-4-001
Property location	Northeast of the terminus of 86th Avenue east
Current use	Vacant undeveloped Rural land
Open space attributes	Fish and Wildlife, Streams, Wetlands, Wooded areas, Aquifer recharges area, Flood Hazard area, and Landslide area.
Other attributes	Project is greater than five acres
Conclusions	Public acquisition would assure continued protection of the woodland and wetland habitat
Acquisition cost	The city of Tacoma public utility has not suggested a price however, the assessed value, which does not include the value of the timber is approximately \$176,300. When the assessed value is divided by the estimated available funds of \$2,500,000, the assessed value represents 7% of the total available funds.
Project Name	Findings and Conclusions
Number 3: Cirque/Bridgeport Park Addition	
Sponsor	The City of University Place
Title to be held by	The City of University Place
Parcel size	Approximately 5 acres
Parcel number	426000-001-0, 002-0, 004-0, 005-0
Property location	East side of Bridgeport Way and south of Cirque Drive and north of 54 <sup>th</sup> street
Current use	Single family home used as a rental
Open space attributes	Wetlands, Wooded areas, Aquifer Recharge Area,
Other attributes	Property is contiguous to existing parkland and is within an Urban area, matching monies are also available
Conclusions	Public acquisition would add to the City's parklands and preserve a forested area within the city.
Acquisition cost	The City secured an appraisal of the property in 2000 of \$375,000. When the appraised value is divided by the estimated available funds of \$2,500,000, the appraised value represents 15% of the total available funds.

Project Name	Findings and Conclusions
Number 4: Hylebos Creek Park	
Sponsor	City of Fife
Title to be held by	City of Fife
Parcel size	Approximately 15.3 acres
Parcel number	04-20-06-22-08
Property location	Off of 8th street
Current use	Vacant undeveloped
Open space attributes	Critical Salmon Habitat, Fish and Wildlife, Streams, Wetlands, Aquifer Recharge areas, Flood Hazard areas, Seismic hazard area, Volcanic hazard area
Other attributes	Project is within the city's UGA and is greater than five acres. There are matching funds are available.
Conclusions	Public acquisition would protect the riparian and salmon habitat
Acquisition cost	The owner has suggested a price of \$410,000 When this price is divided by the estimated available funds of \$2,500,000, the price represents 16% of the total available funds.
Project Name	Findings and Conclusions
Number 5: Puget Creek Beach	
Sponsor	Scott Hansen
Title to be held by	WA. Dept. of Natural Resources
Parcel size	Approximately 90,000 square feet
Parcel number	895000-266-2, 895000-267-0
Property location	Beach only, across from Puget Park in city of Tacoma, just north of Shenanigans restaurant.
Current use	Open beach
Open space attributes	Critical Salmon Habitat, Marine Waters, Fish and Wildlife, Streams, Flood Hazard areas
Other attributes	Project is within the city's UGA
Conclusions	Public acquisition would protect the riparian and salmon habitat
Acquisition cost	The seller has not suggested a price however, the assessed value is approximately \$218,700. When the assessed value is divided by the estimated available funds of \$2,500,000, the assessed value represents 8% of the total available funds.
Project Name	Findings and Conclusions
Number 7: Hopp Farm Acquisition	
Sponsor	Pierce County Parks and Recreation
Title to be held by	Pierce county Parks and Recreation
Parcel size	Approximately 38.9 acres
Parcel number	04-19-14-3-703, 04-19-14-3-701
Property location	Off of 122 <sup>nd</sup> avenue at the intersection of 122 <sup>nd</sup> avenue and 136 <sup>th</sup> street east
Current use	Agricultural with two single family homes
Open space attributes	Wetlands, Wooded area, Agricultural, Aquifer Recharge areas, and Steep Slopes
Other attributes	Project is within the CUGA and is greater than five acres
Conclusions	Public acquisition of the development rights would



	preserve the property in its current agricultural use and with a future option to buy the remaining interest, preserve the property for open space.
Acquisition cost	The owner has not suggested a price however, the assessed value is approximately \$439,700. As a rule, the value of development rights can be between 60% and 75% percent of the market value. When the potential development rights valuation for the property (\$329,775) is divided by the estimated year 2002 funds of \$2,500,000, the outcome potentially represent 13.% of the total estimated Conservation Future funds for 2002.
Project Name	Findings and Conclusions
Number 8: West Milton Nature Preserve II	
Sponsor	City of Milton
Title to be held by	City of Milton
Parcel size	Approximately 1.5 acre
Parcel number	599020-008-1, 599020-008-2
Property location	506 5 <sup>th</sup> Avenue in Milton
Current use	Vacant residential
Open space attributes	Critical Salmon Habitat, Fish and Wildlife, Streams, Wetlands, Aquifer Recharge areas, Flood Hazard areas, Seismic hazard area
Other attributes	Project area is within the city's UGA, and together with adjoining open space is 5 acres. The city has \$5,000 in matching funds for this project.
Conclusions	Public acquisition would protect the riparian and wetland habitats.
Acquisition cost	The seller has not suggested a price however, the assessed valuation for the property is \$21,800.dollars. When the assessed valuation for the property is divided by the estimated funds of \$2,500,000, the valuation for the property potentially represent 0.8.% of the total estimated Conservation Future funds for 2002.
Project Name	Findings and Conclusions
Number 9: Wetland Replacement site	
Sponsor	Pierce County Parks and Recreation
Title to be held by	Pierce County Parks and Recreation
Parcel size	Approximately 20 acre
Parcel number	05-19-23-3-002, 020, 4-048
Property location	15402 Pioneer, outside of south Prairie
Current use	Vacant residential
Open space attributes	Critical Salmon Habitat, Fish and Wildlife, Streams, Wooded Areas, Agricultural Land, Aquifer Recharge areas, Flood Hazard areas, Seismic Hazard and Volcanic Hazard
Other attributes	Property id 5 acres or greater in size.
Conclusions	Public acquisition would protect the riparian and salmon habitat and provide a mitigation site for the Pierce County Regional Trail. However, if selected,

	the offer to purchase must be based on a clear understanding of the future use the County intends to put the property to. If used as a wetland mitigation area, that use must clearly is habitat creation as discussed in the memorandum of conversation dated June 16, 1999, from the Conservation Futures program with the Prosecuting Attorneys office.
Acquisition cost	The nomination materials do not contain an appraised value or sellers suggested price. The nomination materials do not contain an appraised value or sellers suggested price. However, the Cascade Conservancy recently acquired the property for \$160,500 dollars. When this purchase price is divided by the estimated funds of \$2,500,000, the valuation for the property potentially represent 6.% of the total estimated Conservation Future funds for 2002.
Project Name	Findings and Conclusions
Number 10: Parkland Prairie Addition	
Sponsor	The Clover Creek Council
Title to be held by	Pierce County Parks and Recreation
Parcel size	Approximately 0.22 acre
Parcel number	336520-0440
Property location	131 street south and 10 <sup>th</sup> avenue south in Parkland
Current use	Vacant residential
Open space attributes	Fish and Wildlife, Aquifer Recharge areas, Flood Hazard areas
Other attributes	Project area is within the CUGA, and together with abutting open space is 5 acres.
Conclusions	Public acquisition would protect the prairie
Acquisition cost	The nomination materials do not contain an appraised value or sellers suggested price. However, a realtor has suggested that the property might go for \$46,000 to \$49,000 dollars. When this suggestion is divided by the estimated funds of \$2,500,000, the valuation for the property potentially represent 2.% of the total estimated Conservation Future funds for 2002.

### **Pierce County Commute Trip Reduction Program**

It is presumed that, by taking vehicles off the road, pollutants into stormwater systems will be diminished.

Pierce County supports three general efforts to help take single-occupant vehicles off our roads for commute purposes.

1) A community program ran by Parks called Carless Commute Weeks. This program runs for 2 weeks every June. In 2002, 588 program participants logged 119,424 miles.

2) Our own employee program that offers transit/vanpool subsidies, HOV parking, incentives, promotions and emergency ride home logged 44,686 trips in 2002.

3) Support services for Pierce County's largest employers, 80 in total. In 2001 these 80 employers represented 80,741 employees. However, 32,000 of those are from Ft. Lewis.

We survey every 2 years. The last survey was conducted in April 2001. The survey indicated 3,000 trips per day are taken in alternative commute modes to driving alone.

#### **Pierce Conservation District and Stream Team**

Water Programs continued to fund basic operations for the Pierce Conservation District and Stream Team. The PCD continued to leverage this money into additional funding via grants. They have been cooperating on the Burley Lagoon and Filucy Bay shellfish closures by surveying animal-keeping properties, sending letters offering to do farm plans, and doing the plans as requested by landowners. The PCD assists the County in promoting proper agricultural practices throughout the incorporated and unincorporated areas. The PCD is currently planning to request a \$5 per parcel yearly fee in the unincorporated County and several incorporated areas to enable them to do even more.

Stream Team continues to act as an important educational tool for the County. It now numbers over 400 volunteers doing plantings, staffing educational displays at community fairs, doing testing on streams, and other activities.

Copies of the annual report for Stream Team, and the 4<sup>th</sup> quarter report for the PCD are attached.

# Stream Team Table of Contents

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# Stream Team Introduction and History

*Stream Team is a coalition of volunteers whose goal is to improve the quality of streams in Pierce County for the benefit of fish, wildlife, and people through public education and action projects. Stream Team offers opportunities for volunteers to participate in water quality monitoring, streamside revegetation with native plants, stormdrain stenciling, and stream clean-up projects. Stream Team members educate the public through participation in educational displays about streams and related issues at a variety of events, including the Puyallup Fair. In addition, the Stream Team program offers workshops and tours dealing with stream improvement and habitat enhancement for salmon and other wildlife living in and along streams.*

Stream Team began in March of 1994 with a grant from the Washington State Department of Ecology Centennial Clean Water Fund. This one-year grant was awarded to the Metropolitan Park District of Tacoma in partnership with the Pierce Conservation District, Pierce County Surface Water Management, and the Cities of Tacoma and Puyallup. The purpose of the program was to develop a water quality/non-point pollution education program for the public.

The Stream Team Program has grown in the past eight years and is now funded by six specific entities: Pierce County Water Programs (35.4%) and the Cities of Tacoma (27%), Lakewood (20%), Puyallup (6.6 %), Fife (5.5%), and Sumner (5.5%). Supplemental funding sources of Stream Team in 2002 included: the Washington State Salmon Recovery Funding Board and a Department of Ecology Centennial Clean Water grant. Additional partnerships in 2002, financial and otherwise, included the Nisqually Stream Stewards, Tacoma Power, Cascade Land Conservancy, and Peninsula Light Co.

Stream Team is run by a staff of 1.75 full-time employees, who are occasionally assisted by interns or volunteers. The Pierce Conservation District (PCD) provides program supervision, guidance, and administrative support. The program works closely with the USDA Natural Resources Conservation Service (NRCS) in the development of revegetation projects along streams.

In 2002, 54 sites were monitored along 26 Pierce County streams by 101 volunteers. This year, Stream Team completed 8 revegetation projects, 6 workshops and tours, and had an educational display at 8 events, including the Puyallup Fair. Eleven groups consisting of 36 people were trained on chemical and physical water quality monitoring. All in all, more than 300 individuals participated in the Stream Team program in 2002.

Finally, the annual Stream Team banquet was held on January 31, 2002, to acknowledge the volunteers who have contributed to the program during the

previous year. The Stream Team banquet is held in conjunction with the Conservation District's annual meeting to emphasize the close relationship between Stream Team and the District.

## Stream Team Administration

During 2002, Stream Team operated with 1.75 staff. Jayme Gordon is the Program Coordinator and Isabel Ragland oversees the water quality monitoring and assists the Program Coordinator with various projects. Financial and program oversight is provided by the Pierce Conservation District.

- A large part of Stream Team is being involved in community programs and attending meetings to develop events and activities. On-going commitments include the Puyallup Fair Northwest Outdoors Building committee, the Pierce County Environmental Educators committee, the Puyallup River Watershed Council education committee, and the Pierce County Native Plant Salvage Program.
- Four Stream Team newsletters were published with a circulation of 800-900. The newsletter is published quarterly and distributed free of charge to Stream Team volunteers and other interested persons.
- The Stream Team website is used to list all upcoming events and current and past project updates. It also lists the water quality monitoring schedule and volunteer opportunities. The Stream Team goals are always listed so anyone with access to the site has an understanding of Stream Team's mission. The website is updated by PCD staff member, Selena Corwin.
- Three volunteers provided behind-the-scenes help to the Stream Team program in 2002. Bobbi Bails sewed two tablecloths for the Puyallup Fair booth, and Mike and Jill Viafore re-painted the "Sammy the Smolt" game and made a new Stream Team event sign. These items were tremendous improvements over their predecessors.

# Stream Team Educational Outreach

*A primary goal of the Stream Team program is to work with groups and individuals to educate them about water quality and non-point pollution issues as they relate to streams. Through these educational efforts, Stream Team hopes to promote an ethic of stewardship for our streams, forests, and wildlife. Stream Team's educational outreach takes many forms, including water quality trainings and presentations on a variety of subjects to classrooms, teachers and groups.*

Stream Team's largest outreach effort each year consists of a booth at the Puyallup Fair. This large booth highlights a different theme every year. All of the supporting entities and the PCD supported the booth, both financially and with staff time.

## Water Quality Monitoring Program

### Stream Monitoring

Water quality monitoring has been an integral part of Stream Team since the program's inception. The purpose of the water quality surveys is to educate and involve citizens, establish a database of information, and catch "red flag" data that can be presented to the county and cities for further analysis. Volunteers survey for stream discharge (volume), dissolved oxygen, temperature, pH, nitrate, and an overall basic stream assessment. Turbidity testing is gradually being introduced and will eventually be done by all stream monitors. Monitoring is done on a quarterly, monthly, or every other month basis depending upon the time constraints of the monitor.

The water quality monitoring program has been successful as an educational tool, and as a result, streams have been watched more closely for pollutants and signs of degradation. Stream Team volunteers have become the "eyes and ears" for what is happening in Pierce County streams. The water quality program is continually being evaluated and reassessed as we look for ways to improve.

101 Stream Team volunteers made 226 monitoring trips to 54 sites on 26 streams through-out Pierce County in 2002.



*Above: Caroline Kim collects water samples from Leach Creek.*

### Lake Monitoring

In 2002, Stream Team continued its lake water quality monitoring program in Lakewood for the third year. Response from both the monitors and the City is positive and lake monitoring will continue to be part of the Stream Team program.

Volunteers monitored Gravelly, Louise, and American Lakes. Carp Lake was monitored for part of the year, until water levels got so low as to prohibit sampling. Once again, Lake Steilacoom did not participate. Lake monitors measure dissolved oxygen, temperature, secchi depth, and water color. They also collect water samples for laboratory analysis of chlorophyll-a and total phosphorus.

Thirteen volunteers monitored sites twice a month on American Lake (2 sites), Lake Louise (1 site), Carp Lake (1 site), and Gravelly Lake (1 site) from May through October.

### Quality Assurance Project Plan

A quality assurance project plan (QAPP) has been developed and implemented for both the stream and lake monitoring programs. One part of the QAPP plan is to hold a Quality Assurance/Quality Control (QA/QC) workshop for stream monitors in February, which provides monitors the opportunity to practice their sampling techniques in a laboratory environment. Other points of the QAPP plan include staff field visits once a year with each group of monitors (stream and lake), and the collection and testing of replicate samples by the monitors.

### Watershed Review

In November, a data review was held for stream monitors in the Key Peninsula-Gig Harbor-Islands watershed. (Stream Team attempted to hold a data review for the Nisqually watershed, but no monitors were able to attend.) The water quality data was analyzed by volunteer Pete Kaslik for statistically significant trends, and a representative from Pierce County Water Programs was there to answer additional questions. These annual watershed reviews give monitors feedback on the information they collect, and allow them to see data other volunteers are collecting on the same creek and what it means on a watershed scale.

### Macroinvertebrate Sampling

Since 1999, Stream Team has used the B-IBI (Benthic Index of Biological Integrity) protocol for macroinvertebrate sampling, which is done as part of the



effort organized by Pierce County Water Programs in late summer. Stream Team works with Pierce County to collect samples in select stream reaches, which are sent to a certified lab for analysis. Macroinvertebrate sampling is a preferred means of determining stream health status because biological data is a more definitive way of monitoring than chemical testing. Biological data collected in the same place over a period of years will give a more complete assessment of the watershed than chemical data, which usually only presents a "snapshot" of a stream's water quality. Stream Team utilized selected volunteers to help with macro sampling and hopes to involve even more interested volunteers in the future.

In 2002, Stream Team conducted macroinvertebrate sampling at sites on South Prairie, Spanaway, Coal Mine, and Lackey Creeks for Pierce County.

## Water Quality Trainings

Throughout the year, Stream Team offers stream monitoring workshops as well as one-on-one trainings with individual volunteers. Participants learn how to do water quality sampling, stream discharge calculations, and stream reach (riparian) assessment. Many of these trainees may become water quality monitors, but these trainings are also used as an educational tool, so becoming a monitor is not required.

### *002 Water Quality Trainings Summary*

<u>Date</u>	<u>Number of Participants</u>	<u>Location</u>
<u>January 4</u>	<u>3</u>	<u>Brighton Creek</u>
<u>January 28</u>	<u>4</u>	<u>Schoolhouse Creek (Anderson Isl.)</u>
<u>March 14</u>	<u>3</u>	<u>Clarks Creek</u>
<u>March 25</u>	<u>3</u>	<u>Rocky Creek</u>
<u>May 11</u>	<u>8</u>	<u>Swan Creek</u>
<u>May 16</u>	<u>1</u>	<u>Bradley Creek</u>
<u>September 21</u>	<u>10</u>	<u>Swan Creek</u>
<u>September 26</u>	<u>1</u>	<u>Fennel Creek</u>
<u>October 14</u>	<u>1</u>	<u>Hylebos Creek</u>
<u>October 27</u>	<u>1</u>	<u>Morey Creek</u>
<u>October 30</u>	<u>1</u>	<u>Mashel River</u>

Total Number of Trainings: 11  
Participants: 36

Total Number of

## Workshops and Tours

In addition to water quality monitoring, Stream Team sponsors several workshops and tours each year for the community at large. The goal of these events is to educate and provide information to the public about different issues affecting them and their local environment. Speakers with expertise in natural resource issues are invited to make presentations on topics such as native plants, salmon issues, non-point pollution, etc. The following list describes the workshops and tours sponsored by Stream Team in 2002.



*Above: Volunteers collect aquatic insect larvae at the macroinvertebrate workshop at Minter Creek.*

### 2002 Workshop and Tour Summary

Name	Date	Location	Number of Participants
Quality Assurance/ Quality Control Workshop	February 6 & 7	Snake Lake Nature Center	21
Benthic Macroinvertebrates	May 2 & 4	Snake Lake Nature Center and Minter Creek	13
Benthic Macroinvertebrates – Tahoma Audubon kids club	May 23	Puget Creek	10
Kayak Tour	July 13	Tacoma Waterfront – Thea's Park to Owens Beach	8
Salmon Tour	September 28	Clarks Creek hatchery	38+
Salmon Carcass Toss	December 14	Upper Puyallup River	15

**Total number of workshops: 6**

**Total number of participants: 105+**

## **Presentations**

*Presentations are given on a variety of subjects whenever a request is made for a Stream Team speaker. Audiences frequently consist of students (k-12 and higher education) and community groups.*

### **2002 Summary of Presentations**

<i>Date</i>	<i>Topic</i>	<i>Group</i>	<i>Location</i>	<i>No. of Participants</i>
January 23	Water Quality	Fox Island homeschool group	Fox Island	16
January 28	Stream Team program	Sumner City Council	Sumner	approx. 10
April 25	Water Quality	4 <sup>th</sup> /5 <sup>th</sup> grade McKinley Elementary class	Tacoma	approx. 30
July 29	Salmon	South Hill Kindercare	Puyallup	13
October 15	Stream Team program	Fife Rotary Club	Fife	approx. 15
November 7	Stream Team program	Parkland-Spanaway Kiwanis Club	Parkland	approx. 30
December 10	Stream Team program	Clover Park Kiwanis Club	Lakewood	approx. 15
December 11	Stream Team program	Tacoma Mall Kiwanis Club	Tacoma	approx. 30

**Total number of presentations: 8**  
**Participants: approx. 160**

**Total number of**

## **Stream Team Displays and Events**

Throughout the year, Stream Team participates in a variety of community events, which provide opportunities to promote the Stream Team program and engage members of the community in Stream Team's mission. Displays and events are manned primarily by Stream Team staff, although volunteer help is sometimes enlisted, especially for the Puyallup Fair, which was staffed by 33 Stream Team volunteers, PCD employees, and staff from supporting entities.

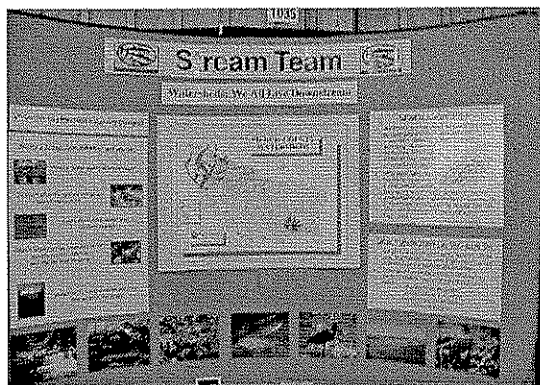
Stream Team's main display of the year is at the Puyallup Fair in September. The Fair runs for 17 days and is attended by more than a million visitors. This is an important event for Stream Team as it allows us to advertise the Stream Team program to a wide and diverse audience; in 2002, more than 2,700 people stopped by the Stream Team booth. The theme of this year's Puyallup Fair booth was *Pierce County watersheds* and the *30<sup>th</sup> Anniversary of the Clean Water Act*. Fairgoers were invited to mark where they live on a large map of the

county and its four watersheds. This exercise helped make people aware of the watershed they live in and the watershed concept. Informational handouts and temporary Stream Team tattoos were also part of the booth.

### *2002 Summary of Displays and Events*

What	Date	Location
"Song of the Salmon" Family Night	March 15	Portland Community Center, Tacoma
Earth Day Fair	April 22	University of Puget Sound, Tacoma
Puyallup Fair	September 6-22	Western Washington Fairgrounds
Volunteer Fair	September 12	University of Puget Sound, Tacoma
Volunteer Fair	September 13	Pacific Lutheran University
Naturefest	October 6	South Puget Sound Game Farm
Ohop Open House	October 8	Ohop Grange
USGS National Water Monitoring Day Event	October 18	Downtown Tacoma
Leach Creek Watershed Stewards Salmon Homecoming	December 14	Fircrest

**Total Number of Displays: 9**



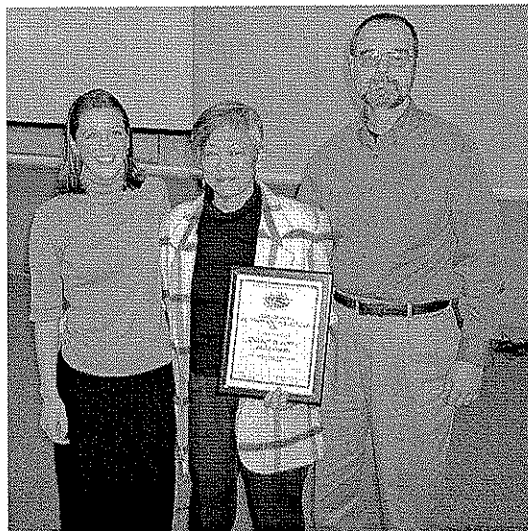
*Above: 2002 Stream Team display at the Puyallup Fair.*

## Stream Team Awards Banquet

*The Stream Team Awards Banquet was held on January 31, 2002, at the Pierce County Library Administrative Center to recognize volunteer contributions made in 2001. More than 100 people were in attendance. The Stream Team banquet is combined with the Pierce Conservation District's annual meeting to emphasize the vital connection between Stream Team and the Conservation District's other programs.*

The banquet's featured speaker was Bruce Wulkan from the Puget Sound Water Quality Action Team, who gave a presentation on low impact development. Staff recapped the year's accomplishments in respective District and Stream Team programs, and the evening concluded with the presentation of awards.

Every year, an important part of the Stream Team banquet is the distribution of awards and recognition of volunteer contributions to the program. Activities such as water quality monitoring, stream revegetation efforts, stormdrain stenciling, and stream clean-ups were recognized. The 2001 *Volunteers of the Year* were Caroline Kim and Dennis and Joyce Anderson; *Group of the Year* went to Cub Scout Pack #444; and the *Above and Beyond Award* was presented to Pete Kaslik in recognition of the large amount of time he spent analyzing water quality data for the watershed review. Special tiles designed with a chinook salmon were given to the following volunteers who celebrated five years of active volunteerism with Stream Team: Barbara Reisman, Norm Dion, T. Hollingsworth, Brett Johnson, Perry Richards, Al Schmauder, Scott Hansen, and Lee and George Cathcart.



*Above: Jayme Gordon (left) presents Joyce and Dennis Anderson with the Stream Team "Volunteer of the Year" award.*

# Stream Team Action Projects

## Streambank Revegetation Projects

The purpose of doing streambank revegetation projects is to develop or enhance riparian cover along streams. A good cover of native plants with a mix of



*Above: Members of the University of Puget Sound Circle K Club help plant along Wapato Creek (left), and a mother and son team plant a nootka rose along Lacamas Creek (right).*

Conifers, deciduous trees, and groundcover will result in more food, shelter, and cover for salmon, benthic macroinvertebrates, and other wildlife. Using native plants to help eradicate weed species such as reed canary grass, blackberries, and Japanese knotweed results in better stream flow, greater numbers and diversity of native wildlife, increased woody debris in the stream from mature plantings, and the cooling of stream temperatures for salmonids.

Trees and shrubs used at each planting are chosen on a site-specific basis, and revegetation projects along streams must be maintained for a minimum of three years to increase the chances of the planting's success. Maintenance includes the use of tree protectors around the base of the trees and shrubs, weeding and invasive plant removal, and prohibiting animal browse.

Plantings continued to be a popular Stream Team activity in 2002 and many volunteers donated their time to help plant riparian areas in Pierce County. In 2002, Stream Team cooperated extensively with other groups such as the Nisqually Stream Stewards, Peninsula Light Co., Tacoma Power, and the Cascade Land Conservancy to implement planting projects. Several of the plantings were paid for with grants from the state's Salmon Recovery Funding Board or with funds from project partners.

## 2002 Stream Revegetation Summary

<u>Planting Location/ Landowner</u>	<u>Project Partner(s)</u>	<u>Date</u>	<u>Number of Plants</u>	<u>Number of Volunteers</u>
<u>Mayo Cove tributary/ McKenna</u>	<u>Peninsula Light Co.</u>	<u>March 9</u>	<u>800</u>	<u>36</u>
<u>Ohop Creek/ Rainier Timber Co.</u>	<u>Nisqually Stream Stewards</u>	<u>March 30</u>	<u>990</u>	<u>80</u>
<u>Muck Creek/ Fort Lewis</u>	<u>Nisqually Stream Stewards</u>	<u>April 6</u>	<u>470</u>	<u>32</u>
<u>Wapato Creek/ City of Fife</u>	<u>n/a</u>	<u>October 5</u>	<u>1,045</u>	<u>38</u>
<u>Canyon Falls Creek</u>	<u>Sumner High School (Don Pruett, teacher)</u>	<u>October 17</u>	<u>40 cedars</u>	<u>17</u>
<u>Lacamas Creek/ Byrd</u>	<u>Nisqually Stream Stewards</u>	<u>October 26</u>	<u>1,495</u>	<u>78</u>
<u>Tanwax Creek/ Tacoma Power</u>	<u>Nisqually Stream Stewards, Tacoma Power</u>	<u>November 2</u>	<u>440</u>	<u>46</u>
<u>Clover Creek/ Cascade Land Conservancy</u>	<u>Cascade Land Conservancy</u>	<u>December 7</u>	<u>155 Garry oak</u>	<u>33</u>

Total Number of Plantings: 8  
Plants: 5,435

Total Number of Volunteers: 360

Total Number of

## Stream Team Revegetation Maintenance and Monitoring

Stream Team often requires the help of volunteers to return to previous planting sites to do maintenance. This includes pulling invasive species to reduce competition, checking for animal damage, and placing tree protectors around the plant stems.

Although necessary for a successful revegetation project, planting maintenance is labor intensive and unattractive to volunteers. For these reasons, it is often quite difficult to coordinate volunteer help for maintenance projects. Stream Team sponsored planting maintenance parties on Coal Mine, Morey, and Salmon Creeks in 2002.

Stream Team is looking into ways to perform maintenance on plantings up through the first five years. Small groups of volunteers will likely be relied upon to do maintenance on select sites a few times a year, and if funding is available, WCC crews may also be hired for maintenance purposes.

In addition to maintenance, another important post-planting task is revegetation monitoring. Post-planting monitoring determines if the appropriate plant species were selected for the site, if the planting needs weed removal or is suffering from drought or animal browse. The percentage of plant mortality can also be determined by surveying sites in the months and years following planting.

Essentially no monitoring of streamside revegetation projects took place in 2002 due to staff and budget constraints.

## Stormdrain Stenciling

The purpose of stormdrain stenciling is to educate the public about the problem of non-point pollution in our urban and suburban communities. Stenciling drains with the message, "Dump No Waste – Drains to Stream" (or Bay, Lake, or Groundwater), lets people know that dumping oil, antifreeze, detergents and other toxic substances into stormdrains results in pollution of our waterways. The stenciling program also emphasizes the importance of keeping water run-off from roads and driveways clean. Stream Team provides stenciling kits that include equipment required for stenciling, and volunteers are trained in the safe and proper way to stencil.

In 2002, most stormdrain stenciling took place in Tacoma. On June 22, Stream Team, Citizens for a Healthy Bay, and the City of Tacoma staged the annual Stenciling Day at Stewart Heights Playfield. Fifty-seven volunteers stenciled approximately 200 drains in the vicinity of Portland and McKinley Avenues. At the end of August, incoming students at the University of Puget Sound stenciled more than 217 stormdrains in the west slopes area of Tacoma.

## Stream Clean-ups

In April, Stream Team and the PCD partnered on a clean-up of Canyon Falls Creek organized by the Washington Dept. of Fish and Wildlife. Dozens of tires, appliances, and other trash was collected with help from Pierce County Roads department and work release crew.

With 16 volunteers from the University of Washington – Tacoma and University Place community, more than a dozen bags of trash were collected from along Chambers Creek and Chambers Bay on April 18. Stream Team thanks volunteer Perry Richards for his help coordinating the event.

Additional stream clean-up was done by a Charles Wright high school student in August. Trash, including furniture items, and invasive plants were removed from Flett Creek at the 75<sup>th</sup> Street bridge.

### Stream Team Sponsors:



PIERCE COUNTY  
SWM





# Pierce Conservation District

## Quarterly Progress Report to Pierce County Surface Water Management October through December, 2002

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*This report is prepared for Pierce County Surface Water Management in accordance with contract # 01-12497. The purpose of this report is to update the Pierce County Water Programs on District activities.*

**Background:** District management and staff coordinate activities with the various subdivisions of Pierce County government on an ongoing basis, to ensure the coordination and maximum efficiency of shared efforts to improve water quality and conservation of natural resources. The District attempts to maintain a presence on the Pierce County watershed councils, to be able to respond to issues and assist agencies and landowners with resource conservation issues. This quarter the District has worked to prepare for its biennial audit by the Washington State Auditor's Office.

**Farm Conservation Planning/Implementation** - The Pierce Conservation District has worked closely with Natural Resources Conservation Service (NRCS) to monitor staff writing and implementing conservation plans. The District employs two full-time Farm Planning Resource Technicians.

For 2002, we have set a goal of writing 12 conservation plans for Pierce County residents. We have exceeded that goal by two, as five conservation plans were written in the fourth quarter of 2002. The district was able to work with three landowners of existing conservation plans to implement five best management practices to protect water quality. We have been working closely with 11 Pierce County Dairy operators and could be constructing up to two more waste storage ponds in the summer of 2002. During the fourth quarter of 2002, there were five small farm management workshops held to educate landowners. The district is continuing to promote the Conservation Reserve Enhancement Program (CREP). Here is a summary of Conservation Planning activities for the fourth quarter of 2002.

### Activity Summary Agricultural Farm Planning 2002

Plan Type	Plans in Progress	Technical Assistance Visits	Requested (Waiting List)	Completed To date 2002	Cost share request
Small Farm	3	31	8	14	0
Dairy	0	8	0	4	5
CREP	0	7	0	3	2

**Grants Active:**

**WCC Water Quality Implementation Grant:** This grant was used to fund work on the Ohop Restoration Project, the Mashel Restoration Project, the Nisqually Riparian Study, and the Puyallup Priority Index Study during this quarter

**WCC Dairy Nutrient Management Grant:** This grant was used to fund technical assistance to five commercial dairies during this quarter.

**WCC Puget Sound Water Quality Grant:** This grant was not used during this quarter

**WCC Conservation Reserve Enhancement Program Grant:** This grant was used to fund design and planting for two CREP projects during this quarter

**WCC Professional Engineering Grant:** This grant will be used to fund salmon recovery project pre-design in WRIA 11 and farm best management practice design in WRIA 10 in 2003

**WCC Chambers-Clover Creek Habitat Limiting Factors Grant:** The contract for this grant was signed this quarter

**SRFB Key Peninsula Fish Passage Inventory Grant:** This grant was not used during this quarter.

**SRFB Puyallup Priority Index Grant:** This grant was used for pre-design work on salmon recovery projects this quarter

**SRFB Nisqually Fish Passage Inventory Grant:** This grant was not used during this quarter.

**SRFB Slide/Straight Creek Barrier Removal Grant:** Preliminary design consultations took place with the U.S. Forest service this quarter.

**SRFB Sportsman's Club Oxbow Barrier Removal Grant:** Preliminary design consultations took place with Pierce County Water Programs this quarter.

**SRFB Mashel River Restoration Grant:** Preliminary design consultations took place with the consultant and community this quarter.

**SRFB Ohop Creek Restoration Grant:** Preliminary design consultations took place with the consultant and community this quarter.

**SRFB Nisqually River Riparian Inventory Grant:** The entire mainstem Nisqually, Mashel River, and Ohop Creek were analyzed for riparian cover this quarter.

**SRFB Birch Street Barrier Removal Grant:** Project construction was completed this quarter. Riparian restoration and project monitoring will take place in 2003.

## **Grants Applied For:**

**SRFB Coal Creek Barrier Removal Grant:** This project is intended to remove a barrier to salmon passage in the City of Auburn. This grant may be funded in 2003.

**SRFB Foothills Trail Barrier Removal Grant:** This project is intended to remove a barrier to salmon passage near the Town of South Prairie. This grant may be funded in 2003.

**SRFB Puyallup/White/Carbon Acquisition Study:** This project is intended to analyze riparian conditions within the upper portions of the Puyallup, White & Carbon Rivers, then provide seed funding for property acquisition in partnership with the Cascade Land Conservancy. It is not expected that this grant will be funded.

**SRFB Chambers-Clover Creek Habitat Feasibility Study:** This project is intended to study WRIA 12 for salmon habitat and fish passage by cataloging all anadromous and resident portions of the system through field measurement. This grant may be funded in 2003.

**SRFB Brighton Creek Restoration Project:** This project is intended to remove a barrier to salmon passage near the Town of Roy. This grant may be funded in 2003.

**SRFB Horn Creek Restoration Project:** This project is intended to remove a barrier to salmon passage near the Town of Roy. This grant may be funded in 2003.

**SRFB Lacamas Creek Restoration Project:** This project is intended to remove a barrier to salmon passage near the Town of Roy. It is not expected that this grant will be funded.

**SRFB Purdy Creek Restoration Project** This project is intended to remove a barrier to salmon passage near Purdy in Key Peninsula. This grant may be funded in 2003.

**SRFB Dutcher Creek Restoration Project** This project is intended to remove a barrier to salmon passage near Vaughn in Key Peninsula. It is not expected that this grant will be funded.

**SRFB Nisqually Habitat Feasibility Study:** This project is intended to continue study for salmon habitat and fish passage in the Nisqually River system by cataloging all anadromous and resident portions of the system through field measurement. This grant may be funded in 2003.

## **Washington State University Watershed Stewards Program**

This course, designed to educate citizens on water quality issues and solutions to problems, was offered again in 2002.

## **Financial Summary**

A summary of all the financial items mentioned in this report are summarized in the table following:

## 2002 NPDES EXPENDITURES

DEPT/PROGRAM	SWMP COMMITMENT		ACTUAL EXPENDITURE	
	FTE	\$	FTE	\$
<b>Water Programs</b>				
Capital Improvement Program	7.3	671,000	13	2,610,700
Salmon Habitat Recovery Lead Entity	-	-	.65	53,000
Pond & Creek Maintenance & Smallworks	-	-	6	1,032,603
District Court Crew	-	-	7.8 FTE equival.	85,000
NPDES Coordination & Transfer to PALS	.5	48,000	2.5	634,220
Monitoring	1.1	79,850	1.4	122,464
Watershed Planning & Basin Plans	2.5	247,000	2.5	965,624
CWSP	1.25	125,000	1.25	76,540
Industrial Inspection	1.7	123,300	1.2	98,484
River Improvement Activities				
Buyouts & Acquisitions	-	-	Varies	1,149,200
Drainage Investigations	1.6	119,850	1	*59,904
Endangered Species Act			2+	726,160
<b>Tacoma Pierce County Health Department</b>				
Recreational Shellfish	.1	7,800	.15	12,400
On-Site Sewage O&M	2	153,400	4.25	380,000
Bathing Beach Sampling	-	-	.1	8,000
Groundwater Monitoring	-	-	1.5	106,000
Compliance Group	2	153,400	4.5	236,000
Chambers-Clover Management Plan	-	-	.2	165,310
Shellfish/Source protection and Septic repair	-	-	1.9	152,443
<b>PALS</b>				
Implementation of Stormwater Management Manual	17	1,289,000	**17.5	1,510,000
Code Enforcement	4	465,700	.2	***9,400
<b>Transportation Services</b>				
Road Design	2	154,000	2	163,000
Road Maintenance	23.75	1,994,300	27	2,743,195

DEPT/PROGRAM	SWMP COMMITMENT		ACTUAL EXPENDITURE	
	FTE	\$	FTE	\$
<b>Pierce County Conservation District and Stream Team</b>				
	-	-	varies	115,829
<b>Parks and Recreation</b>				
Conservation Futures	1	-	1	2,500,000
Training	-	5,305	-	27,568
<b>Adequate Information</b>				
Mapping	1	70,000	varies, but >1	>339,360
<b>Education</b>				
	1	60,000	4	1,445,000

\*Does not include PALS or Roads figures, which are wrapped into their budgets.

\*\*FTE does not include people hired by contract from 4 engineering firms.

\*\*\*Difference in amounts as a result of better accounting allowing designation of NPDES functions only.

## **Appendix 1**

# **Inspections Report**

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
250	0122305028	4/8/2002	Site	yes	YOUNG T & CHANG S. LIM	13706 SR 302 KPN	10	2
870	5815000030	1/3/2002	Site	yes	JENNIFER PAK	3004 112TH ST E.	3	3
871	4745000051	1/3/2002	Site	no	JAMES R. SMITH	10234 PACIFIC AVE S.	6	3
872	7001190120	1/9/2002	Data Entry	no	DALE WESTMARK	2823 183RD AVE E.	15	0
873	0419132021	1/9/2002	Data Entry	no	C. C. EDWARDS	140TH AVE E.	16	0
875	0419132036	1/10/2002	Data Entry	no	TUBULAR STEEL INC.	13322 142ND AVE E.	23	0
876	0619083000	1/10/2002	Data Entry	no	WHITE RIVER SCHOOL DIST #416	26928 120th St E., Buckley 98321	21	0
877	0619053015	1/15/2002	Site	no	RONALD A. SHEAR	26719 SR 410	15	
878	0420012012	1/15/2002	Site	no	GARY A. TUCCI	14103 8TH ST. E.	15	0
879	0619057002	1/16/2002		no	JOHN R. STAVE	26306 HWY 410 EAST	15	0
880	0619057002	1/17/2002	Reinsp	no	JOHN R. STAVE	26306 HWY 410 EAST	15	0
881	0419306044	1/15/2002	Site	no	DENNIS RIDGEWAY	5711 160TH ST. E.	6	4
882	7980000081	1/23/2002	Data Entry	no	COLUMBIA STATE BANK	10321 CANYON RD E	3	0
884	0419118028	2/8/2002	Site	yes	TIME OIL CO	12714 122ND ST. E.	3	1
885	0319092801	2/4/2002	Site	yes	MOBIL OIL CORPORATION	11202 PACIFIC AVE S.	2	4
886	0319131137	2/4/2002	Site	yes	R&R ASSOCIATES	5318 128TH ST. E.	3	1
887	4320000221	2/26/2002	Site	no	ATLANTIC RICHFIELD	11608 MERIDIAN S.	3	4
888	4320000956	2/26/2002	Site	no	TIME OIL COMPANY	11802 MERIDIAN EAST	3	4
889	0420316009	2/21/2002	Reinsp	no	PARK HEE SOCK & YOUNG SOON	8401 CANYON ROAD/TEXACO	3	4
890	0419307001	2/28/2002	Site	no	SERVSTAT ASSOCS LLC	17519 CANYON RD E	6	4
891	0320274090	2/28/2002	Reinsp	no	SAFEWAY INC # 1436	7201 PORTLAND AVE	0	0
896	0519094031	3/6/2002	Data Entry	no	TRINITY LAND DEVELOPMENT	CEDAR RIDGE ESTATES 19722 127TH ST E	23	0
897	2695002041	3/7/2002	Site	no	CAR WASH ENTERPRISES INC	13204 PACIFIC AVE E	6	
898	0419074094	3/26/2002	Data Entry	no	POOL BROTHERS CONST LLC	122036 62ND AVE E	3	0
899	0520031013	3/27/2002	Data Entry	no	SALT LLC	721 209TH AVE CT E	23	0
900	0319362028	3/27/2002	Data Entry	no	OLYMPIC PIPE LINE CO	4420 180TH ST E	6	0
901	0419294005	3/27/2002	Data Entry	no	ASPEN RIDGE LLC	8512 170TH ST E	6	0
902	0419294051	3/27/2002	Data Entry	no	ASPEN RIDGE LLC	8512 170th St. E.	0	0
903	6023500010	3/27/2002	Data Entry	no	JSH PROPERTIES, INC	11501 CANYON RD E	6	0
904	0319224017	3/27/2002	Data Entry	no	KENNETH & CLAIRE KNIGHT	1505 MILITARY RD E	6	0

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
905	0419338002	3/27/2002	Data Entry	no	MERIDIAN FRIENDS LLC	10114 187TH ST. E	23	0
906	0319224017	4/10/2002	Tele	no	KENNETH & CLAIRE KNIGHT	1505 MILITARY RD E	6	0
907	0320345006	4/10/2002	Tele	no	HARR FAMILY LP	2205 116TH ST. SO. SUITE 200	6	0
908	0420271057	4/10/2002	Tele	no	BENSTON DRIVE EAST LLC	11207 BENSTON DR E	23	0
909	0420362003	4/10/2002	Tele	no	SPECIALIZED PROPERTIES LLC	13505 PIONEER WAY E.	6	0
910	2695004880	4/10/2002	Tele	no	FRANKLIN PIERCE SCHOOL DIST #402	Elmhurst Elementary school	6	0
911	0319042042	4/18/2002	Site	no	RONALD & GEORGINA EATON	10111 PACIFIC AVE	2	3
912	0319042012	4/18/2002	Site	no	RONALD & GEORGINA EATON	10105 PACIFIC AVE	2	
913	0319042038	4/18/2002	Site	no	RONALD & GEORGINA EATON	10121 PACIFIC AVE	2	
914	2695002750	3/1/2002	Site	no	TEXACO REFINING & MARKETING	13221 PACIFIC AVE	6	4
915	0320274090	2/28/2002	Site	no	SAFEWAY INC # 1436	7201 PORTLAND AVE	6	
917	9560400060	3/14/2002	Site	yes	CAPITAL S INVESTMENT CORP	10505 STEELE ST	6	2
918	4075010748	2/22/2002	Site	no	CHEVRON USA, INC	10918 CANYON RD	3	4
919	4075010356	2/21/2002	Site	yes	TOSCO CORPORATION	10504 CANYON RD	3	2
920	4075210723	2/25/2002	Site	no	BRANNON HELEN	11215 CANYON RD	3	4
921	0320254019	2/6/2002	Site	yes	TOSCO CORPORATION	7206 CANYON RD E	3	3
922	0418036010	2/6/2002	Site	yes	DARRELL & SHEILA STEPHEN	19921 MERIDIAN E.	3	3
923	0419306040	2/11/2002	Site	no	3GC DEVELOPMENT LLC	16105 CANYON RD E	3	5
924	0419285010	2/8/2002	Site	yes	TEXACO REFINING & MARKETING INC	16104 MERIDIAN E	3	2
926	5815000030	2/27/2002	Site	no	JENNIFER PAK	3004 112TH ST E.	3	3
927	58050000321	2/27/2002	Site	no	KOLLU R PRASAD & SARAWATHI	10404 PORTLAND AVE	3	4
928	4320000912	2/26/2002	Site	no	CHEVRON USA INC	11722 MERIDIAN ST E	3	1
929	0319212027	3/7/2002	Site	yes	TOSCO CORPORATION	15119 PACIFIC AVENUE	6	
930	7750000423	3/6/2002	Site	no	PLATINUM PROPERTIES LLC	10915 PORTLAND AVE E	3	
931	0320273091	3/4/2002	Site	no	TIME OIL COMPANY	7201 GOLDEN GIVEN	6	3
932	2240003807	2/28/2002	Site	no	ATLANTIC RICHFIELD	11908 PACIFIC AVE	6	3
933	7745002400	3/14/2002	Site	no	TIME OIL COMPANY	9815 GOLDEN GIVEN RD E	6	3
934	5025002530	3/15/2002	Site	no	EQUILON ENTERPRISES LLC	15905 PACIFIC AVE	6	4
935	0319064027	3/15/2002	Site	yes	ATLANTIC RICHFIELD	11109 S. STEELE	6	2
936	5025003240	3/18/2002	Site	no	CENEX INC	16702 PACIFIC AVE	6	
937	0319043004	3/25/2002	Site	no	GOOD FOR U SERVICES INC.	10421 PACIFIC AVE S	6	4



Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
938	4745000760	3/4/2002	Site	no	FARMERS UNION CENTRAL EXCHANGE	10610 PACIFIC AVE	6	4
939	4660000721	3/26/2002	Site	no	MOON IL KWAN & SANG S.	18920 PACIFIC AVE S	6	4
940	5001260171	4/3/2002	Site	yes	TRIMARK VIII LLC	20315 MOUNTAIN HWY E.	6	2
941	5025001341	3/26/2002	Site	no	CHO KOONG H. & MEE LEE	17519 PACIFIC AVE S.	6	4
942	5025001970	3/25/2002	Site	no	TIME OIL COMPANY	16521 PACIFIC AVE	6	4
943	6021910090	3/27/2002	Site	yes	TOSCO CORPORATION	17506 MERIDIAN ST E.	6	2
944	0319356013	3/29/2002	Site	no	KIM SUNG JI & SOON AI	2210 E. 176TH ST.	6	4
945	5025003893	3/28/2002	Site	yes	SOUTHLAND CORP	17408 PACIFIC AVENUE	6	4
946	7745003542	3/29/2002	Site	no	LONGEN, CHARLES L.	10323 PORTLAND AVE E	6	4
947	0419304022	3/29/2002	Site	no	BREWER'S SPORT COMPLEX LLC	6805 176TH ST. E.	6	4
948	5025003230	3/29/2002	Site	no	HWANG SUK J & SAI SOON	16618 PACIFIC AVE SO	6	4
949	0319333012	4/1/2002	Site	no	TIME OIL COMPANY	19121 PACIFIC AVE S.	6	4
950	5001740020	4/3/2002	Site	yes	DECATO CHOL AN	11320 CANYON RD	6	2
951	0416091052	4/2/2002	Site	no	BARNEY'S CORNER LLC	40512 MERIDIAN E.	11	4
952	0319042083	4/25/2002	Site	no	CRESCENT FAMILY PARTNERSHIP	10323 PACIFIC AVE	6	4
953	5001340010	4/2/2002	Site	yes	LARRY & MARGARET O'NEIL	22321 MTN HWY	6	2
955	0415102001	4/15/2002	Site	yes	STATE DEPT. OF TRANSPORTATION	50025 MOUNTAIN HWY E.	19	4
956	0217281102	4/10/2002	Site	yes	TIME OIL COMPANY	35201 MCKENNA TANAWAX HWY	11	2
957	0022261047	4/8/2002	Site	yes	FRIENDLY FOOD MART MGMT INC	16914 SR 302 KPN	10	2
958	0318253043	4/15/2002	Site	yes	YOUNG C. CALDWELL	26620 MTN HWY E.	12	2
959	0318041027	4/18/2002	Site	no	MOUNTAIN HWY TOWNE PUMP & DELI	19614 MTN HWY E.	12	4
960	5001260171	4/15/2002	Site	yes	TRIMARK VIII LLC	20315 MOUNTAIN HWY E.	6	2
961	0319042104	4/25/2002	Site	no	GAZAY, JACK & MARTHA K. ETAL	10211 PACIFIC AVE.	2	4
962	0317241049	4/30/2002	Site	no	SON YOUNG K & SUSIE	33916 MTN HWY E	12	4
963	0219053059	4/30/2002	Site	no	SOUTHLAND CORPORATION	10649 108TH AVE SW	6	4
964	0418081014	4/26/2002	Site	yes	RAINIER VENEER INC	8220 EUSTIS HUNT RD.	6	2
965	0318253043	5/1/2002	Tele	no	YOUNG C. CALDWELL	26620 MTN HWY E.	12	4
966	0418081014	5/1/2002	Tele	no	RAINIER VENEER INC	8220 EUSTIS HUNT RD.	6	0
967	0217251024	5/2/2002	Site	yes	G S HWANG INC	35216 40TH AVE S. (SR 702)	12	2
968	0615276006	5/2/2002	Site	no	SONG HO NAM & SUN AE	29716 SR 706 EAST	22	4

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
969	0417037005	5/3/2002	Site	yes	JOE E. AND ALISANDRA MARTINEZ	30323 MERIDIAN AVE E.	12	2
970	0418152015	5/6/2002	Site	yes	ATLANTIC RICHFIELD	10216 224TH ST E.	12	2
971	0419312059	5/3/2002	Form	no	BBC LLC	5521 184TH ST. E.	6	0
972	0419338002	5/6/2002	Form	no	MERIDIAN FRIENDS LLC	10114 187TH St. E	23	0
976	0419151066	5/1/2002	Form	no	WYNWOOD HOMEOWNERS ASSOCIATION	13204 112th St. E	23	0
977	0319366039	5/1/2002	Form	no	MOUNTAIN SUNRISE HOMEOWNERS ASSOCIATION	18217 38TH AVE E.	6	0
978	0418188051	5/7/2002	Site	yes	HWANG SIN SEONG & MI SOOK	23518 70TH AVE E	12	2
979	7000340020	5/8/2002	Site	no	TRIMARK VII LLC	20801 HWY 410	23	
980	0919044008	5/8/2002	Site	no	MICHAEL L. SMITH	58120 SR 410	13	4
981	7001190120	5/7/2002	Form	no	DALE WESTMARK	2823 183RD AVE E.	15	0
982	2130000043	5/2/2002	Form	no	Fox Island United Church of Christ	726 6th Ave	26	0
983	5780000260	5/8/2002	Form	no	SAINT MARY'S CATHOLIC CHURCH	757 138TH ST. S.	6	0
984	0419108027	5/1/2002	Form	no	WILLOWS LANE HOME OWNERS ASSOCIATION	12118 & 121120 114TH AVE CT E	6	0
985	0520087076	5/10/2002	Site	yes	MP PROPERTIES LLC	17008 FOREST CANYON RD. E.	23	2
986	0319061083	5/2/2002	Form	no	OSCAR & OLIVANN HOKOLD	9605 26TH AVE. S. (SALES RD)	6	0
988	0417014017	5/13/2002	Site	no	AHN YONG K. & SUNNIE	29822 ORTING KAPOWSIN HWY	16	4
989	0121023015	5/14/2002	Site	no	Templeton Julius P. and Ann L.	8111 86th Ave. NW	5	4
990	0319043020	4/22/2002	Site	no	Curt Miller	10409 Pacific Ave S	6	3
991	0221173081	5/14/2002	Site	no	EQUILON ENTERPRISES LLC	5115 OLYMPIC DR. NW.	5	
992	0420364049	5/10/2002	Site	yes	RONALD H. & DARLENA P. BRISENDINE	9508 SR 162	16	2
993	3810000340	5/9/2002	Site	no	TAINI RICHARD W. SR. & PATRICIA	10200 PACIFIC AVE	2	3
994	3810000211	5/9/2002	Site	no		10025 Pacific Ave	6	3
995	6021430080	5/15/2002	Tele	no	CAMBIUM INVESTMENTS LLC	16214 157TH AVE E	6	
996	0519026041	5/9/2002	Site	no	JUDITH R. SLAGEL	21406 SR 410 E.	23	
997	5875000225	5/16/2002	Site	yes	HERZOG LIVING TRUST	587 6TH AVE FOX ISLAND	26	2
998	0520292012	5/9/2002	Site	yes	LYNETTE JUERGENS	6601 166TH AVE E	23	2
999	6021430210	5/17/2002	Tele	no	CANYON MEADOWS LLC	58th Ave. E & 161st St.	3	0
1000	0619083000	5/17/2002	Tele	no	WHITE RIVER SCHOOL DIST #416	26928 120th St E., Buckley 98321	21	0
1001	0419132021	5/21/2002	Tele	no	C. C. EDWARDS	140TH AVE E.	16	0
1002	9830000043	5/16/2002	Form	no	ED ZENKER	124 S 146TH ST	6	0

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
1003	6620000020	5/20/2002	Data Entry	no	BAKAT LLC	10435 Pacific Ave	6	0
1004	0221182110	5/15/2002	Form	no	Peninsula Gardens	5503 Wollochet Drive NW	5	0
1005	0519356004	5/17/2002	Form	no	TROUT LODGE	17612 219TH AVE E.	16	0
1006	5001840010	5/20/2002	Data Entry	no	Reiten Randy L & Kelly L	Corner 201st St & 2nd Ave E	6	0
1007	0319092023	5/17/2002	Form	no	LOETE STEVEN D & LAURENE D	137 & 139TH 116TH ST S	6	0
1008	0419155030	5/21/2002	Form	no	112th Ave. E. Property Owners Association	112th Ave. E. short Plat	6	0
1009	4001590040	5/20/2002	Form	no	BTS INC & ERNIE BAYDO JR	9020 351ST ST SO	12	0
1010	0122244017	5/20/2002	Site	no	Pierce County	13209 Goodnough Dr NW	5	
1011	0419272008	5/17/2002	Form	no	GOOD SAMARITAN COMM HEALTH CARE	16515 MERIDIAN EAST	6	
1012	0419104003	5/10/2002	Form	no	MEYER CREST HOME OWNERS ASSOCIATION	12721 117TH AVE CT E	6	0
1013	0520203000	5/15/2002	Form	no	HARRY CORLISS	16805 64TH ST. E.	15	0
1014	0319083030	5/20/2002	Data Entry	no	Parkland Christian Church	12305 Spanaway Loop Rd	6	0
1015	5780002265	5/20/2002	Data Entry	no	Chalker Raymond L & Charlotte	1408 141st St S	6	0
1016	5805000440	5/20/2002	Data Entry	no	Franklin Pierce School Dist 402	2300 105th St E	6	0
1017	0319281024	5/20/2002	Data Entry	no	Gray Marjorie	16115 "B" ST E	6	0
1018	0319252067	5/20/2002	Data Entry	no	Peacock Development LLC	16517 38th Ave E	6	0
1019	6021430140	5/15/2002	Form	no	PSP PROPERTIES LLC	5630 163RD STREET EAST	6	0
1020	0419132036	5/14/2002	Form	no	TUBULAR STEEL INC.	13322 142ND AVE E.	23	0
1021	0318101009	5/14/2002	Form	no	HOWARD/WARREN /PETRAMALO	21303 MTN HWY E	6	0
1022	0419164008	5/14/2002	Form	no	PUYALLUP SCHOOL DISTRICT NO 3	323 12TH STREET NW	6	0
1023	0320133003	5/15/2002	Form	no	Daniel & Mary Schneller	4721 Vickery Ave	6	0
1024	0417303022	5/14/2002	Form	no	TANWAX COUNTRY CHAPEL	36417 MOUNTAIN HWY	20	0
1025	6021020110	5/13/2002	Form	no	SCOTT TAYLOR	16008 MERIDIAN AVE E.	6	
1026	0318101006	4/23/2002	Form	no	LINCOLN PROPERTIES LLC	21323 MOUNTAIN HWY	6	
1027	0420228037	5/13/2002	Form	no	FLAMING PAPERBAG LLC	6326 114TH AVE CT. E.	6	0
1028	0222305018	5/13/2002	Form	no	KELLER WILLIAMS REAL ESTATE	3815 126TH ST. CT. NW	5	0
1029	0419304035	5/10/2002	Form	no	SCHNITZER FAMILY INVESTMENT LLC	176TH AND 66TH AVE E.	6	0
1030	0419285016	5/10/2002	Form	no	RONALD PEARSON	9918 162ND ST CT E	6	0
1031	7745003481	5/13/2002	Form	no	JOHN & DEBORAH MUSSIE	1718 103RD ST. E.	6	0
1032	0519026024	4/16/2002	Form	no	JAMES OIL COMPANY INC.	21416 101ST ST. E.	15	0

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1033	0319052158	4/12/2002	Form	no	OSCAR & OLIVANN HOKOLD	S 96TH ST & AINSWORTH AVE S	6	0
1034	0419157056	4/30/2002	Form	no	MERIDIAN VILLAGE LLC	10527 137th St Ct E	3	0
1035	0420062212	4/15/2002	Form	no	FORTE TRNS LOGISTICS CORP	219 & 301 54TH AVE E	4	0
1036	0220078002	4/16/2002	Form	no	DUBOIS LEE R & NELLIE M	1221 14TH AVE / FOX ISLAND	26	0
1037	5001550020	5/23/2002	Site	yes	BP WEST COAST PRODUCTS LLC	20122 MTN HWY	6	2
1038	0419316006	5/23/2002	Reinsp	no	ATLANTIC RICHFIELD	17601 CANYON RD E	3	4
1039	0319064027	5/23/2002	Reinsp	no	ATLANTIC RICHFIELD	11109 S. STEELE	6	4
1040	0519012024	5/8/2002	Site	no	HWANG SENG-HOON & YS	23315 SR 410	23	
1041	0619163030	4/10/2002	Form	no	ARGO JAY & DAILLENE	14120 SR 165	16	
1042	0319068020	4/12/2002	Form	no	STEELE STREET LLC	2211 112TH ST S	6	0
1043	0419186011	5/28/2002	Form	no	CAYON ROAD PROPERTIES	5508 128TH ST.E	6	0
1044	0520046014	5/10/2002	Site	yes	S & V PROPERTIES ASSOCIATION II	18215 9TH ST. E.	23	2
1045	0319368005	4/16/2002	Form	no	CARLSON PAVING PRODUCTS	18425 50TH AVE E	6	0
1046	0419263012	4/24/2002	Form	no	SIERRA SUNRISE LLC	122ND AVE E & SUNRISE BLVD	23	0
1047	0122242060	5/17/2002	Site	no	AL ARAB MUHAMMD & GAYALA	14317 PURDY DR. NW.	5	4
1048	0122226044	5/17/2002	Site	no	KEY PENINSULA MARKET	9522 KPN/SR 302	10	4
1050	0318045020	5/29/2002	Site	yes	CHAE Y. & HO D. LEE	19825 MOUNTAIN HIGHWAY E	6	2
1051	0320361077	5/31/2002	Site	no	TIME OIL COMPANY	8320 CANYON RD E	3	4
1052	0221297023	6/11/2002	Site	no	GREGORY B. ANDERSON	1902 POINT FOSDICK DR NW	5	4
1053	5380000230	6/6/2002	Site	no	GAYLE W. & CORAL ADAMS	54011 MOUNTAIN HWY E	19	4
1054	0122242032	6/10/2002	Site	no	ROLAND & ROLAND	13818 PURDY DR. NW.	25	4
1057	5001100030	6/12/2002	Data Entry	no	Deed Properties	208th & 18th Avenue East Inglewood West	6	0
1058	5002590010	6/12/2002	Form	no	BELCO FOREST PRODUCTS INC	5301 184TH ST E	6	0
1059	0419311021	6/12/2002	Data Entry	no	Boeing Company	Frederickson 18400 BLK Canyon Rd	6	
1060	0320364111	6/12/2002	Data Entry	no	Carlson Carl L & Waletta R	9020 Pipeline Rd E	3	0
1061	0419132035	6/12/2002	Data Entry	no	STB/PCC JOINT VENTURE	13414 142ND AVE E.	23	0
1062	0418013032	6/12/2002	Data Entry	no	Mc Mahon Jack & Judith ETAL	20616 Orting Kapowson Highway	12	0
1063	0419312059	6/12/2002	Data Entry	no	BBC LLC	5521 184TH ST. E.	6	0
1064	2004305500	6/10/2002	Site	no	HELEN M. MAXFIELD	7102 RAY NASH DR NW	10	4
1065	0217281104	6/6/2002	Site	no	HANAH INC	35618 SR 507	12	4
1066	0122153046	6/4/2002	Site	yes	FRIENDLY FOOD MANAGEMENT CO.	9507 SR 302	10	2

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
1068	6021910022	6/13/2002	Data Entry	no	McCarthy Patrick D & G ETAL	17528 Meridian E	6	0
1069	6021910011	6/13/2002	Data Entry	no	Wilmington Trust Co	17404 Meridian E	6	0
1070	6530000013	5/28/2002	Site	no	ARNOLD'S GROCERY LLC	117 HWY 162 E	7	4
1071	0419030009	6/14/2002	Site	yes	LOOKER BROTHERS	5825 176TH ST E	6	2
1072	0317131044	6/18/2002	Site	no	WILLIAM H. HORN	32416 MTN HWY E.	12	4
1073	6021910012	6/20/2002	Data Entry	no	Roundup Co	17404 Meridian E	6	0
1074	0418032007	6/17/2002	Site	no	MUELLER CAMERON ENTERPRISE	19505 MERIDIAN AVE E	6	4
1075	0318033046	6/19/2002	Reinsp	no	HART MICHAEL L & GRACE A	20617 MOUTAIN HIGHWAY	6	4
1076	5215001550	6/19/2002	Site	no	PASQUIER PANEL PRODUCTS INC	13615 PIONEER WAY E	23	4
1077	6021910030	6/20/2002	Data Entry	no	Roundup Co	17404 Meridian E	6	0
1078	0319258025	6/19/2002	Site	no	SHOTWELL HOLDINGS LLC	17500/17208 CANYON RD.	6	4
1079	6021910070	6/20/2002	Data Entry	no	Harman KFC Investments	17514 Meridian E	6	0
1080	0319043134	6/20/2002	Data Entry	no	Schmalenberg Jan & Barbara	10716 S "A" ST	2	0
1081	7745001292	6/20/2002	Data Entry	no	The One LLC	2520 96th ST E	3	0
1082	0320273001	6/20/2002	Data Entry	no	Stealth Group LLC	910 E 72nd ST	6	0
1083	0320273096	6/21/2002	Data Entry	no	Stealth Group LLC	7220 Golden Given	6	0
1084	0319212049	6/21/2002	Data Entry	no	Tacoma Goodwill Industries	14906 Pacific Ave	6	0
1085	0319212050	6/21/2002	Data Entry	no	Tacoma Goodwill Industries	14906 Pacific Ave	6	0
1086	0319071066	6/21/2002	Data Entry	no	TERRY Mc LEAN	11615 S. STEELE ST.	6	0
1087	0520046014	6/21/2002	Form	no	S & V PROPERTIES ASSOCIATION II	18215 9TH ST. E.	23	4
1088	0319071079	6/24/2002	Site	yes	M B PARTNERSHIP	11721 STEELE ST. S. - WESTMARK PRODUCTS, INC.	6	3
1089	0519074019	6/21/2002	Site	no	WOOWORTH & CO INC & MILES SAND & GRAVEL	11621 MC CUTCHEON RD. E.	23	4
1090	0419303009	6/21/2002	Form	no	LOOKER BROTHERS	5825 176TH ST E	6	4
1091	0319105007	6/20/2002	Site	no	JOSEPH DOYLE	1702 112TH ST E	6	0
1092	0319071067	6/25/2002	Data Entry	no	Mt Tahoma Leasing	11700 BLK & South Steele St.	6	0
1093	0319071070	6/25/2002	Data Entry	no	Mt Tahoma Leasing	South Steel Street	6	0
1094	0319071071	6/25/2002	Data Entry	no	Mt Tahoma Leasing	South Steel Street	6	0
1095	0319071072	6/25/2002	Data Entry	no	Mt Tahoma Leasing	South Steel Street	6	0
1096	0319071073	6/25/2002	Data Entry	no	Mt Tahoma Leasing	11707 21ST AVE S. #A	6	0
1097	0319071080	6/25/2002	Data Entry	no	McLean Terry S ETAL	11721 Steele St South	6	0
1098	0319071079	6/25/2002	Data Entry	no	M B PARTNERSHIP	11721 STEELE ST. S. -	6	0

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
1099	7130000231	6/25/2002	Data Entry	no	Deed Properties	WESTMARK PRODUCTS, INC. 14107 Pacific Ave	6	0
1100	4320000912	4/16/2002	Form	no	CHEVRON USA INC	11722 MERIDIAN ST E	3	4
1101	0419282016	6/26/2002	Tele	no	Camden Town Homeowners Association	Camden Town Phase 1 and 2	4	0
1102	5001740020	6/25/2002	Form	no	DECATO CHOL AN	11320 CANYON RD	6	4
1103	0417037005	6/27/2002	Form	no	JOE E. AND ALISANDRA MARTINEZ	30323 MERIDIAN AVE E.	12	4
1104	0419103014	6/27/2002	Data Entry	no	Meridian Plaza South LLC	12623 Meridian S	3	0
1105	0419157056	6/27/2002	Data Entry	no	MERIDIAN VILLAGE LLC	10527 137th St Ct E	3	0
1106	0319044116	6/27/2002	Data Entry	no	DEWITT STEVE & JENNIFER	10731 "A" ST. S.	2	
1107	7130000251	6/27/2002	Data Entry	no	Deed Properties	14107 Pacific Ave	6	0
1108	0417081013	6/27/2002	Data Entry	no	Pierce County Fire District # 21	8102 304th St E	12	0
1109	0419201018	6/28/2002	Site	yes	ANN GEHRLEIN, PRESIDENT	14600 BLK & 85TH AVE E	23	2
1110	0418152015	6/26/2002	Form	no	ATLANTIC RICHFIELD	10216 224TH ST E.	12	3
1111	0318045020	6/28/2002	Tele	no	CHAE Y. & HO D. LEE	19825 MOUNTAIN HIGHWAY E.	6	4
1112	5001260171	7/2/2002	Form	no	TRIMARK VIII LLC	20315 MOUNTAIN HWY E.	6	4
1113	0419118028	6/28/2002	Form	no	TIME OIL CO	12714 122ND ST. E.	3	4
1114	0319071079	7/1/2002	Form	no	M B PARTNERSHIP	11721 STEELE ST. S. - WESTMARK PRODUCTS, INC.	6	4
1115	0320254019	7/1/2002	Form	no	TOSCO CORPORATION	7206 CANYON RD E	3	4
1116	7560015421	7/1/2002	Form	no	AUSTIN O HOBERG SELF STORAGE LLC	6805 112TH ST E	6	0
1117	0319363026	7/2/2002	Site	no	HILVER J. & EDWIN III CHAMBERS	19111 38TH AVE E	6	4
1118	0319071066	7/1/2002	Site	no	TERRY Mc LEAN	11615 S. STEELE ST.	6	4
1119	5001550020	6/18/2002	Form	no	BP WEST COAST PRODUCTS LLC	20122 MTN HWY	6	4
1120	4015426570	7/5/2002	Ltr	no	RIDGEMONT HOMEOWNERS ASSOCIATION	15321 66TH AVE E	6	
1121	0319024014	6/3/2002	Form	no	PACIFIC CHRISTIAN CENTER INC	3211 112TH ST E	6	0
1122	0419111001	6/3/2002	Form	no	SKOOKUM ARCHERS	11209 SHAW ROAD	6	0
1123	0122251020	5/30/2002	Form	no	HIGH VALLEY INVESTMENTS LLC	OFF 54TH AVE NW, MCCORMICK RIDGE CONDOS	6	0
1124	0319231020	5/30/2002	Form	no	Kimberly Gardens LLC	3602 Brookdale Rd. E., Kimberly Gardens	6	0
1125	0221321008	6/3/2002	Form	no	CITY OF TACOMA	1202 26TH AVE NW, TACOMA NARROWS AIRPORT	5	0



Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
1126	0313000010	5/17/2002	Form	no	Pacific Lutheran University	125th St. S. & Park Ave.	6	0
1127	4776500130	4/15/2002	NPDES QTR. RPT	no	TUCCI & SONS INC	11102 STEELE ST. SW.	6	0
1128	6021430140	6/8/2002	Form	no	KELLER SUPPLY COMPANY	16106 57TH AVE E.	6	0
1129	0520203000	7/11/2002	Site	yes	HARRY B. CORLISS	16805 64TH ST. E.	15	0
1130	4250001152	7/3/2002	Site	no	KITTY WETHERBEE	13105 HOUSTON RD.	15	3
1131	0319112059	7/1/2002	Site	no	DEAN POWELL & VELARDE MAGDA	11702 24TH AVE E.	6	4
1132	6021910090	7/9/2002	Reinsp	no	TOSCO CORPORATION	17506 MERIDIAN ST E.	6	4
1133	0318045020	7/9/2002	Form	no	CHAE Y. & HO D. LEE	19825 MOUNTAIN HIGHWAY E.	6	4
1134	0319131137	6/28/2002	Reinsp	no	R&R ASSOCIATES	5318 128TH ST. E.	3	1
1135	5025003893	6/27/2002	Tele	no	SOUTHLAND CORP	17408 PACIFIC AVENUE	6	4
1136	0419285010	7/1/2002	Reinsp	yes	TEXACO REFINING & MARKETING INC	16104 MERIDIAN E	3	2
1137	0418152015	7/11/2002	Reinsp	no	ATLANTIC RICHFIELD	10216 224TH ST. E.	12	3
1138	4075010356	7/1/2002	Reinsp	no	TOSCO CORPORATION	10504 CANYON RD	3	4
1139	0319043137	7/3/2002	Site	yes	GLEN GRANT CHEVROLET/GEO SOUTH INC ETAL	11011 PACIFIC AVE	2	2
1140	6762002090	7/12/2002	Site	no	WAYNE MONZELOWSKY	12302 PACIFIC AVE	6	4
1141	6762002090	7/12/2002	Site	no	WAYNE MONZELOWSKY	12302 PACIFIC AVE	6	4
1142	0419338003	7/15/2002	Data Entry	no	Pierce County Fire District # 21	10012 187th ST E	6	0
1143	0319024031	7/15/2002	Data Entry	no	DUFFY NAIAD CONST CO	10601 Waller Road	3	0
1144	5815000062	7/15/2002	Site	no	SAMUEL & ELIZABETH	11305 WALLER RD E	3	4
1145	4075310565	7/12/2002	Site	no	MATTHEW D. KLEIN ETAL	11409 58TH AVE E.	3	4
1146	0320274025	7/15/2002	Site	no	ELLINGSON BROTHERS LLC	7717 PORTLAND AVE	18	4
1147	0318104050	7/16/2002	Data Entry	no	J & I LLC	21804 MOUNTAIN HIGHWAY	6	0
1148	7745001250	7/16/2002	Site	no	ASSOCIATES LEASING INC	9619 19TH AVE E.	3	4
1149	5001340010	6/26/2002	Reinsp	no	LARRY & MARGARET O'NEIL	22321 MTN HWY	6	4
1150	0319212027	6/26/2002	Reinsp	no	TOSCO CORPORATION	15119 PACIFIC AVENUE	6	4
1151	4015415091	7/2/2002	Site	no	PLYWOOD TACOMA, INC.	15024 CANYON RD E	6	4
1152	0217281102	7/18/2002	Tele	no	TIME OIL COMPANY	35201 MCKENNA TANAWAX HWY	11	4
1153	7745001780	7/19/2002	Site	no	OPCO, INC.	9702 PORTLAND AVE	3	4
1154	0319111023	7/18/2002	Site	no	JEFFREY A. & DEBBIE L. HOPKINS	3522 E. 112TH ST	3	4
1155	4745000233	7/18/2002	Site	no	CHARLES R. DECK ETAL	10406 PACIFIC AVE.	2	3

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
1156	0319331066	7/19/2002	Site	no	BETHEL SCHOOL DISTRICT	18020 EAST "B" STREET	6	4
1157	0319061083	7/19/2002	Site	no	OSCAR & OLIVANN HOKOLD	9605 26TH AVE. S. (SALES RD)	6	4
1158	5001540080	7/16/2002	Site	yes	BETHEL STATION LLC	22221 MOUNTAIN HIGHWAY E.	6	3
1159	0319043137	7/26/2002	Tele	no	GLEN GRANT CHEVROLET/GEO SOUTH INC ETAL	11011 PACIFIC AVE	2	0
1160	4776500130	7/22/2002	Site	no	TUCCI & SONS INC	11102 STEELE ST. SW.	6	3
1161	0122254076	7/22/2002	Site	no	SMITH, WALTER H & NORMA K	11302 BURNHAM DR NW	5	4
1162	9830000043	7/23/2002	Site	no	ED ZENKER	124 S 146TH ST	6	3
1163	7560015421	7/23/2002	Site	no	AUSTIN O HOBERG SELF STORAGE LLC	6805 112TH ST E	6	4
1165	0420322067	7/24/2002	Site	no	NORDEVIN GROUP LLC	8121 Fruitland Ave E, Puyallup WA 98371	6	4
1166	0320133003	7/25/2002	Site	no	Daniel & Mary Schneller	4721 Vickery Ave	6	4
1167	R0319081026	7/29/2002	Site	no	Franklin Pierce School District #402	Sheridan and 112th St. S.	6	4
1168	3810000380	7/26/2002	Site	no	TRANS AMERICA CAPITAL MGMT INC	10220 PACIFIC AVE S.	6	3
1169	0419275011	7/29/2002	Site	no	NANCY F. O'FARRELL	11302 164TH ST. E.	3	4
1170	0419285010	7/23/2002	Form	no	TEXACO REFINING & MARKETING INC	16104 MERIDIAN E	3	0
1171	4015426570	7/25/2002	Site	no	RIDGEMONT HOMEOWNERS ASSOCIATION	15321 66TH AVE E	6	3
1172	4320000215	7/23/2002	Site	no	Fakhir George & Andrew LLC	11718 MERIDIAN ST S	3	3
1173	0517074001	7/29/2002	Site	no	RAINER TIMBER COMPANY LLC	31713 CAMP ONE RD	22	4
1174	0320113067	7/29/2002	Site	no	HAROLD & SHAELA LINDSAY	2805 PIONEER WAY	3	4
1175	0519108019	7/31/2002	Site	no	FRANK & RHONDA DICOSTANZA	21214 121ST ST. E.	15	3
1176	0318101020	8/1/2002	Site	no	ROGER & JANET YOUNG	1714 208TH ST. E.	6	4
1177	0419201004	8/2/2002	Tele	no	TOM PETRAMALO	1512 80TH AVE E.	6	0
1178	4320000215	8/5/2002	Tele	yes	Fakhir George & Andrew LLC	11718 MERIDIAN ST S	3	
1179	0318044020	8/1/2002	Site	no	RONALD HAAVE	20102 MTN HWY E.	6	4
1180	6020800040	8/1/2002	Site	no	S S ARROW PARTNERSHIP	12815 CANYON RD. E.	6	4
1181	0320343129	8/5/2002	Site	no	GOLDEN OAKS LLC	1007 E. 96TH ST.	6	3
1182	6021430080	8/5/2002	Site	no	CAMBIUM INVESTMENTS LLC	16214 157TH AVE E	6	3
1183	0519032036	8/6/2002	Site	no	LINDA YOUNGBERG	Sprarie Rd and Hwy 410	7	
1184	0319068020	8/5/2002	Site	no	STEELE STREET LLC	2211 112TH ST S	6	4
1185	0319366032	8/6/2002	Site	no	WILLIAMS COMMUNICATION INC	17801 45TH AVE E	6	3



Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
1186	0519026024	8/6/2002	Site	no	JAMES OIL COMPANY INC.	21416 101ST ST. E.	15	3
1187	0318102004	8/7/2002	Site	no	S B R COMPANY	20917 MTN HWY E.	6	4
1188	0415319061	8/8/2002	Site	yes	WOODFIELD DIVISION 3 HOMEOWNERS ASSOCIATION	WOODFIELD DIVISION 3	6	2
1189	0122153046	8/11/2002	Form	no	FRIENDLY FOOD MANAGEMENT CO.	9507 SR 302	10	2
1190	0419164008	8/12/2002	Site	no	PUYALLUP SCHOOL DISTRICT NO 3	323 12TH STREET NW	6	3
1191	5002590010	8/7/2002	Data Entry	no	BELCO FOREST PRODUCTS INC	5301 184TH ST E	6	3
1192	6021020110	8/13/2002	Site	no	SCOTT TAYLOR	16008 MERIDIAN AVE E.	6	3
1193	0122153046	8/6/2002	Form	no	FRIENDLY FOOD MANAGEMENT CO.	9507 SR 302	10	3
1195	0520203000	8/13/2002	Ltr	no	HARRY B. CORLISS	16805 64TH ST. E.	15	3
1196	7810000641	8/6/2002	Site	no	SHAFFER PROPERTIES LLC	818 99TH ST E	6	3
1197	0319024058	8/15/2002	Data Entry	no	Duffy Naiad Construction Company	Waller Road	3	0
1198	0122305029	8/6/2002	Site	no	DONALD & CHERI MASTRO	13712 KEY PENINSULA HWY	10	3
1199	0319024061	8/15/2002	Data Entry	no	Duffy Naiad Construction Company	10601 Waller Road	0	0
1200	7130000125	8/15/2002	Data Entry	no	TD / TD Properties	140010 Pacific Ave	6	0
1201	0419223702	8/15/2002	Data Entry	no	Pierce County Public Works	10411 & John Bananola Way E	3	0
1202	0419104003	7/19/2002	Site	yes	MEYER CREST HOME OWNERS ASSOCIATION	12721 117TH AVE CT E	6	3
1203	6023380040	8/16/2002	Data Entry	no	JR & F Randles LP	5414 184th St. E.	6	0
1204	0320113024	8/16/2002	Data Entry	no	Steven D. Lemley	2916 River Rd.	3	0
1205	0320113039	8/16/2002	Data Entry	no	Steven D. Lemley	2916 River Rd.	3	0
1206	0320113049	8/16/2002	Data Entry	no	Steven D. Lemley	2916 River Rd.	3	0
1207	0220328029	8/16/2002	Data Entry	no	Sable Glen Associates	9210/9228 105 th Ave Ct. SW	9	0
1208	0318251005	8/16/2002	Data Entry	no	BETHEL SCHOOL DISTRICT #403	BETHEL JHS #5, 5108 260TH ST E	6	0
1209	0419233003	8/16/2002	Data Entry	no	WESTERN SUNSET HOMEOWNERS ASSOCIATION	WESTERN SUNSET, 122ND AVE E AND 160TH STREET E.	6	0
1210	0319263070	8/16/2002	Data Entry	no	WASHINGTON COURT HOMEOWNERS ASSOCIATION	WASHINGTON COURT, 26TH AVE. E. & 170TH ST. E.	6	0
1211	03193334016	8/16/2002	Data Entry	no	Spanaway Airport	203 188th St. E.	6	0
1212	0318033022	8/16/2002	Data Entry	no	John & Carol Woodman	20715 8th Ave E.	6	0
1213	0419284027	8/16/2002	Data Entry	no	Puyallup School District #3	17207 94th Ave E.	6	0
1214	0319101005	8/16/2002	Data Entry	no	Douglas & Donna Faulds	1510 E. 112th St.	6	0
1215	7000490010	8/16/2002	Data Entry	no	Tamra J. Anderson	23318 114th St. E.	7	0

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
1216	0420228030	8/19/2002	Data Entry	no	Flaming Paperbag LLC	6326 114th Ave Ct. E.	23	0
1217	4075310652	8/19/2002	Data Entry	no	Gordon E W & Therese A ETAL	58th Ave E	6	0
1218	6023380010	8/19/2002	Data Entry	no	Canyon Road Property ILLC	5402 184th St. E.	6	0
1219	0319212029	8/19/2002	Data Entry	no	Heritage Federal Saving & Loan Association	15211 Pacific Ave	6	0
1220	0519141702	8/19/2002	Data Entry	no	Soler Farms Etal	W4-703 2-702 3-010 23-1-020	7	0
1221	0418095039	8/19/2002	Data Entry	no	Sorensen Otto B & Violet O	10015 213th St E	0	0
1222	0319364038	8/19/2002	Data Entry	no	Key Development Investments LLC	4615 192nd St E	6	0
1223	6023500030	8/19/2002	Data Entry	no	Puyallup Retail Associates LLC	11515 Canyon Rd E	6	0
1224	0221321008	8/19/2002	Data Entry	no	City of Tacoma - General Service Dept.	1028 26th Ave NW	5	0
1225	0419272003	8/19/2002	Data Entry	no	Pierce County	166th & Meridian E.	5	0
1226	0520345022	8/19/2002	Data Entry	no	FOXGLOVE HOMEOWNERS ASSOCIATION	FOXGLOVE, 209TH AVE. CT. E. & KELLY LAKE RD.	23	0
1227	5025002822	8/19/2002	Data Entry	no	Rainier Pacific	16120 Pacific Ave	6	0
1228	0319044055	8/19/2002	Data Entry	no	Jan & Barbara Schmalenberg	10739 / 10741 A St. S.	2	0
1229	0319044103	8/19/2002	Data Entry	no	Steven & Jennifer Dewitt	302 106th St E.	6	0
1230	5001210010	8/19/2002	Data Entry	no	E & A Enterprises LLC	10745 A St. Bldg "A"	6	0
1231	0318033044	8/19/2002	Data Entry	no	Brink Land LLC	20504 Mountain Hwy	6	0
1232	0319281056	8/19/2002	Data Entry	no	Leslie & Marilyn Rowland	16601 4th Ave Ct. E.	6	0
1233	4005000271	8/20/2002	Data Entry	no	Puyallup School District #3	7707 112th St. E.	3	0
1234	0319093003	8/20/2002	Data Entry	no	Donald Brink & T J Sadler	12704 12718 S. "A" St.	6	0
1235	0419162021	8/20/2002	Data Entry	no	Puyallup school District #3	86th Ave E. & 128th St. E.	6	0
1236	0419162022	8/20/2002	Data Entry	no	Puyallup School District #3	13008 94th Ave E.	6	0
1237	0418036010	5/18/2002	Tele	no	DARRELL & SHEILA STEPHEN	19921 MERIDIAN E.	3	4
1238	0419201003	8/20/2002	Data Entry	no	Pacific NW Home construction, LLC	8012 150th St E	6	0
1239	0319101079	8/20/2002	Data Entry	no	Portland Avenue Business Park LLC	1822 112th St. E.	6	0
1240	0418107019	8/20/2002	Data Entry	no	Graham Properties & Investments, LLC	21717 103rd Ave Ct E	6	0
1241	6022380051	8/20/2002	Data Entry	no	Residential Resources NW Inc.	17304 Gem Heights Dr. E.	6	0
1242	0519101031	8/21/2002	Data Entry	no	LDS Church - Tax Administration	112th St E & 214th E	6	0
1243	0122153046	8/21/2002	Form	no	FRIENDLY FOOD MANAGEMENT CO.	9507 SR 302	10	4
1244	7745001040	8/26/2002	Site	no	CLARENCE ENGEL	9622 PORTLAND AVE	3	4
1245	0217251024	7/16/2002	Tele	no	G S HWANG INC	35216 40TH AVE S. (SR 702)	12	2
1246	0418013032	9/23/2002	Site	no	Mc Mahon Jack & Judith ETAL	20616 Orting Kapowson Highway	12	4

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
1247	0419201018	9/25/2002	Data Entry	no	ANN GEHRLEIN, PRESIDENT	14600 BLK & 85TH AVE E	23	4
1248	7560015421	9/18/2002	Site	no	AUSTIN O HOBERG SELF STORAGE LLC	6805 112TH ST E	6	4
1249	7130000231	9/30/2002	Site	no	Deed Properties	14107 Pacific Ave	6	4
1250	5001100030	9/30/2002	Site	no	Deed Properties	208th & 18th Avenue East Inglewood West	6	3
1251	0319212049	10/3/2002	Site	yes	Tacoma Goodwill Industries	14906 Pacific Ave	6	3
1252	7745001292	10/2/2002	Site	no	The One LLC	2520 96th ST E	3	3
1253	0419312059	10/7/2002	Site	no	BBC LLC	5521 184TH ST. E.	6	3
1254	0417081013	10/8/2002	Site	no	Pierce County Fire District # 21	8102 304th St E	12	
1255	0419338003	10/8/2002	Site	no	Pierce County Fire District # 21	10012 187th ST E	6	3
1256	7745001292	10/10/2002	Tele	no	The One LLC	2520 96th ST E	3	3
1257	0412054015	10/10/2002	Data Entry	no			6	0
1258	0319068021	10/15/2002	Data Entry	no	Bodine Bruce A & Debbie	2200 109th ST S	6	0
1259	0319352087	10/15/2002	Data Entry	no	Wade Carl D & Janette M	17905 22nd Ave E	6	0
1260	0419201049	10/15/2002	Data Entry	no	Sandy Glen Associates LLC	14617 80th Ave E	6	0
1261	5780000551	10/15/2002	Data Entry	no	Greiner Donah K	14027 Spanaway Loop Rd	6	0
1262	0420061046	10/15/2002	Data Entry	no	PBA Construction Inc	522 70th Ave E	0	0
1263	6021430180	10/15/2002	Data Entry	no	Schramm Joseph R	5612 163rd St E	6	0
1264	0319342010	10/15/2002	Data Entry	no	Hood Development LLC	18112 14th Ave E	6	0
1265	5595100010	10/16/2002	Data Entry	no	Mc Arthur Richard	17600 28th Ave E	6	0
1266	0319043134	9/9/2002	Site	yes	Schmalenberg Jan & Barbara	10716 S "A" ST	2	3
1267	5001470010	10/2/2002	Site	yes	Kindred Glen Homeowners Association	99th Ave Ct E & "A" ST	6	2
1268	0419312059	10/17/2002	Tele	no	BBC LLC	5521 184TH ST. E.	6	3
1269	0419103014	10/17/2002	Site	yes	Meridian Plaza South LCC	12623 Meridian S	3	3
1270	5001660020	10/18/2002	Site	yes	JAMES HARDIE BUILDING PRODUCTS INC	18200 50TH AVE E	6	
1271	0419209004	10/21/2002	Data Entry	no	West View 1 Partners LLC	14612 80th Ave E	6	0
1272	0122305029	10/17/2002	Site	yes	DONALD & CHERI MASTRO	13712 KEY PENINSULA HWY	10	4
1273	0419132035	10/22/2002	Site	yes	STB/PCC JOINT VENTURE	13414 142ND AVE E.	23	2
1274	7760000291	10/23/2002	Data Entry	no	First Samoan Congregational	9821 Ainsworth Ave S	6	0
1275	0418054035	10/23/2002	Data Entry	no	Schuur Brothers Inc	207th ST E between 78th & 84th Ave E	6	0
1276	0519356004	10/29/2002	Data Entry	no	TROUT LODGE	17612 219TH AVE E.	16	4

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp Implementation
1277	0520292012	6/25/2002	Tele	no	LYNETTE JUERGENS	6601 166TH AVE E	23	2
1278	0217033007	11/4/2002	Data Entry	no		SR 507	6	0
1280	0419157056	10/30/2002	Site	no	MERIDIAN VILLAGE LLC	10527 137th St Ct E	3	3
1281	0320273096	10/30/2002	Site	yes	Stealth Group LLC	7220 Golden Given	6	2
1283	6023500010	11/6/2002	Site	no	JSH PROPERTIES, INC	11501 CANYON RD E	6	3
1284	0320273096	11/5/2002	Tele	no	Stealth Group LLC	7220 Golden Given	6	3
1285	0419311021	11/6/2002	Site	no	Boeing Company	Frederickson 18400 BLK Canyon Rd	6	4
1286	4320001942	11/13/2002	Site	yes	EUGENE E. THOMPSON MGMT LLC	12208 MERIDIAN EAST	6	
1287	0221321008	10/24/2002	Site	yes	CITY OF TACOMA	1202 26TH AVE NW, TACOMA NARROWS AIRPORT	5	
1288	5000830230	11/1/2002	Site	yes	Larchmont Heights Estates Homeowners Association	Larchmont Heights Estates, 99th St. E and 2nd Ave	2	2
1289	0418081014	11/25/2002	Reinsp	no	RAINIER VENEER INC	8220 EUSTIS HUNT RD.	6	4
1290	0520292012	11/19/2002	Tele	no	LYNETTE JUERGENS	6601 166TH AVE E	23	2
1291	4015426570	12/2/2002	Data Entry	no	RIDGEMONT HOMEOWNERS ASSOCIATION	15321 66TH AVE E	6	0
1292	0419332006	12/2/2002	Data Entry	no	SILVER CREEK COMMERCIAL LLC	18301 GEM HEIGHTS DR E	6	0
1293	0318101009	12/2/2002	Data Entry	no	HOWARD/ WARREN /PETRAMALO	21303 MTN HWY E	6	0
1294	0319112023	12/2/2002	Data Entry	no	FRANKLIN PIERCE SCHOOL DIST 402	11809 24TH AVE E	6	0
1295	0222305018	12/2/2002	Data Entry	no	KELLER WILLIAMS REAL ESTATE	3815 126TH ST. CT. NW	5	0
1296	0419282016	12/2/2002	Data Entry	no	Camden Town Homeowners Association	Camden Town Phase 1 and 2	4	0
1297	0319366039	12/2/2002	Data Entry	no	MOUNTAIN SUNRISE HOMEOWNERS ASSOCIATION	18217 38TH AVE E.	6	0
1298	0419104003	12/2/2002	Data Entry	no	MEYER CREST HOME OWNERS ASSOCIATION	12721 117TH AVE CT E	6	0
1299	0415319061	12/2/2002	Data Entry	no	WOODFIELD DIVISION 3 HOMEOWNERS ASSOCIATION	WOODFIELD DIVISION 3	6	
1300	0419201004	12/3/2002	Data Entry	no	TOM PETRAMALO	1512 80TH AVE E.	6	0
1301	0419201018	12/3/2002	Data Entry	no	ANN GEHRLEIN, PRESIDENT	14600 BLK & 85TH AVE E	23	0
1302	5002630010	12/3/2002	Data Entry	no	SOUND BUILT HOMES	12717 10TH AVE E.	6	0
1303	0419174018	12/3/2002	Data Entry	no	JEFF & KELLY AFDEM	8527 136TH ST. CT. E.	6	0
1304	0320343058	12/3/2002	Data Entry	no	PEARCE MICHAEL O & JILL M	8803 GOLDEN GIVEN	3	0
1305	0320273136	12/4/2002	Data Entry	no	HOLLAND BUILDERS INC.	7808 GOLDEN GIVEN RD. E.	6	0
1306	0419263006	12/4/2002	Data Entry	no	HUBER HOMES, LLC	1614 S. MILDRED SUITE #12	0	0

Inspection Number	Parcel Number	Inspection Date	Inspection Type	Maintenance Required	Owner	Site Address	Drainage Basin	bmp implementation
1307	0319012017	12/4/2002	Data Entry	no	DANIEL & JUDY VADNEY	10115 42ND AVE E.	6	0
1308	6021430100	6/8/2002	Form	no	KELLER SUPPLY COMPANY	16106 57th Ave E	6	0
1309	6021430100	8/14/2002	Site	no	KELLER SUPPLY COMPANY	16106 57th Ave E	6	4
1310	6021430210	11/26/2002	Site	yes	CANYON MEADOWS LLC	58th Ave. E & 161st St.	3	2
1311	4320000215	12/5/2002	Reinsp	no	Fakhir George & Andrew LLC	11718 MERIDIAN ST S	3	0
1314	0415319061	11/10/2002	Tele	no	WOODFIELD DIVISION 3 HOMEOWNERS ASSOCIATION	WOODFIELD DIVISION 3	6	3
1315	0417081013	12/1/2002	Tele	no	Pierce County Fire District # 21	8102 304th St E	12	0
1316	0419338003	12/1/2002	Tele	no	Pierce County Fire District # 21	10012 187th ST E	6	0

## **Appendix 2**

# **Monitoring Sites**

## **Flow Monitoring Sites**

Mid Puyallup Basin Plan  
    Upper Fennel  
    Lower Fennel  
    Horse haven Creek  
Clarks Creek Basin Plan  
    Clear Creek  
    Canyon Creek  
    Swan Creek  
Clover Creek Basin Plan  
    Clover @ 25<sup>th</sup>  
    Clover @ Brookdale Fire Station  
    Clover @ C st  
    Clover @ 138<sup>th</sup>  
    Spanaway @ Military  
Muck Creek Basin Plan  
    Muck on Fort Lewis  
    Muck @ Roy Park  
Gig Harbor Basin Plan  
    Artondale Creek  
    Crescent Creek  
    McCormick Creek

## **Ground water/ Surface water level monitoring**

144<sup>th</sup>  
192nd  
E-1  
Hemlock pond  
Afdem  
138<sup>th</sup> and A St.  
Ates pond  
Fredrickson Ground Water Study  
Muck Creek  
Chambers Creek Properties  
112<sup>th</sup> St. South  
Glen Oakes

## **Water Quality sampling sites**

Gig Harbor Basin Plan  
    Artondale Creek  
    Lake Sylvia #1  
    Lake Sylvia #2  
    Lake Sylvia #3

Ray Nash Creek  
Rosedale Creek  
Nelyaly Creek  
Wollochet Creek  
Sullivan Creek  
Donkey Creek  
Crescent Creek  
Goodenough Creek  
McCormick Creek

**Fecal Coliform Monitoring within Clean Water Districts (aka shellfish protection districts)**

Burley Lagoon  
Filucy Bay  
Rocky Bay

**Miscellaneous monitoring associated with Water Quality Concerns**

**Precipitation Gauges**

Elk Plain Road Shop  
Puyallup Road Shop  
Purdy Road Shop  
Home Fire Station  
South Prairie Fire Station  
Roy Fire Station

**Macro invertebrate (BIBI) monitoring**

Huge Creek  
Dutchers Creek  
Vaughn Creek  
Goodnough Creek  
Spanaway Creek  
South Prairie Creek  
Horn Creek  
Coffee Creek  
Coal Mine Creek  
Lackey Creek  
South Prairie Creek  
Voights Creek I  
Boise Creek  
Swan Creek Upper  
Swan Creek  
Clarks Creek  
Voight Creek II



**Illicit Discharge monitoring**  
214 Sites inspected

## **Appendix 3**

# **Outfall Inspections for Illicit Discharges**

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
94	PI010802_1-120	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
95	PI010802_1-123	CULVERT	PUBLIC	36	0	STEEL	PERNL_STREAM
609	PI010901_r-83	CULVERT	PUBLIC	24	0	CONCRETE	PUGET_SOUND
71	PI010902_2-319	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
73	PI010902_2-322	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
88	PI011502_2-352	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
549	PI011502_r-95	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
550	PI011502_r-98	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
503	PI011602_1-10	CULVERT	PUBLIC	24	0	ADS	PERNL_STREAM
511	PI011602_1-28	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
87	PI011602_2-262	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
86	PI011602_2-265	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
551	PI012202_r-164	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
607	PI012401_r-131	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
222	PI012501_1-81	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
520	PI020402_1-86	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
61	PI021102_2-106	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
58	PI021302_2-118	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
202	PI021501_1-166	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
600	PI021501_r-121	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
599	PI021501_r-122	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
50	PI022002_2-187	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
52	PI022002_2-44	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
51	PI022002_2-71	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
219	PI022801_1-100	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
668	PI022802_r-84	CULVERT	PUBLIC	36	0	ADS	PUGET_SOUND
361	PI030101_2-131	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
348	PI030601_2-85	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
201	PI031501_1-193	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
200	PI031501_1-196	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
26	PI031802_1-2	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
36	PI031802_2-153	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
35	PI031802_2-156	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
534	PI032602_r-335	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
535	PI032702_r-112	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
355	PI040201_2-71	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
12	PI040202_w-73	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
14	PI040402_2-36	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
17	PI040402_2-39	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
648	PI040600_r-87	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
647	PI040600_r-91	CULVERT	PUBLIC	24	0	ADS	PERNL_STREAM
644	PI041200_r-60	CULVERT	PUBLIC	30	0	CONCRETE	PUGET_SOUND
594	PI041601_r-17	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
659	PI041801_r-71	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
290	PI041900_2-166	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
291	PI041900_2-190	CULVERT	PUBLIC	30	0	CMP	PERNL_STREAM
531	PI042202_1-17	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
530	PI042202_1-18	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
184	PI042301_2-179	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
183	PI042301_2-181	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
182	PI042301_2-184	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
592	PI042301_r-151	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
588	PI042301_r-164	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
641	PI050100_r-116	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
642	PI050100_r-133	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
286	PI050800_2-188	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
181	PI050901_2-2	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
284	PI051000_2-219	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
390	PI051600_1-2	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
281	PI051600_2-38	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
579	PI051701_r-133	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
580	PI051701_r-134	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
577	PI051701_r-81	CULVERT	PUBLIC	36	0	CONCRETE	PUGET_SOUND
640	PI051800_r-127	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
639	PI051800_r-79	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
637	PI051800_r-82	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
574	PI052101_r-45	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
305	PI052200_2-53	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
630	PI052300_r-60	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
575	PI052301_r-129	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
199	PI052401_1-104	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
198	PI052401_1-12	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
277	PI052500_2-46	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
197	PI052901_1-179	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
587	PI060401_r-136	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
583	PI060401_r-139	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
584	PI060401_r-143	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
586	PI060401_r-146	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
585	PI060401_r-149	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
582	PI060401_r-21	CULVERT	PUBLIC	28	0	CONCRETE	PERNL_STREAM
191	PI060601_1-195	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
190	PI060601_1-202	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
189	PI060601_1-248	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
164	PI061801_2-454	CULVERT	PUBLIC	31	0	CONCRETE	PERNL_STREAM
166	PI061801_2-455	CULVERT	PUBLIC	31	0	CONCRETE	PERNL_STREAM
163	PI061801_2-459	CULVERT	PUBLIC	36	0	ADS	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
165	PI061801_2-594	CULVERT	PUBLIC	31	0	CONCRETE	PERNL_STREAM
162	PI061901_2-323	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
501	PI062800_2-94	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
500	PI062800_2-95	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
502	PI062800_2-96	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
317	PI071300_1-139	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
316	PI071300_1-142	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
314	PI071700_1-26	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
174	PI071901_1-180	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
267	PI072400_2-71	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
262	PI080100_2-248	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
264	PI080100_2-251	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
665	PI080700_r-24	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
663	PI080701_r-192	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
155	PI080901_2-21	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
570	PI080901_r-9	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
149	PI082301_2-58	CULVERT	PUBLIC	36	0	CMP	PERNL_STREAM
170	PI090401_1-113	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
142	PI090601_2-106	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
493	PI090601_2-109	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
556	PI091301_r-93	CULVERT	PUBLIC	24	0	CONCRETE	PUGET_SOUND
133	PI091701_1-133	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
561	PI100301_r-140	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
560	PI100301_r-99	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
487	PI100801_1-153	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
485	PI100901_1-274	CULVERT	PUBLIC	24	0	ADS	PERNL_STREAM
612	PI101000_r-59	CULVERT	PUBLIC	30	0	CMP	PERNL_STREAM
613	PI101000_r-62	CULVERT	PUBLIC	30	0	CMP	PERNL_STREAM
9	PI101300_w-31	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
491	PI101701_2-194	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
492	PI101701_2-198	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
119	PI101801_1-124	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
568	PI101801_r-28	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
121	PI102201_1-59	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
118	PI102401_2-5	CULVERT	PUBLIC	31	0	CONCRETE	PERNL_STREAM
115	PI103101_2-21	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
116	PI103101_2-24	CULVERT	PUBLIC	30	0	CONCRETE	PERNL_STREAM
617	PI111500_r-47	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
113	PI111501_1-138	CULVERT	PUBLIC	24	0	ADS	PERNL_STREAM
111	PI112101_2-140	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
105	PI112701_2-100	CULVERT	PUBLIC	24	0	CONCRETE	PERNL_STREAM
383	PI50699_2-43	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
373	PI51399_2-132	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
375	PI51399_2-135	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
374	PI51399_2-155	CULVERT	PUBLIC	24	0	CMP	PERNL_STREAM
474	PI61499_wp-154	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
475	PI61499_wp-155	CULVERT	PUBLIC	36	0	CONCRETE	PERNL_STREAM
652	PI62399_1-10	CULVERT	PUBLIC	36	36	CONCRETE	PERNL_STREAM
653	PI62399_1-15	CULVERT	PUBLIC	30	30	CONCRETE	PERNL_STREAM
654	PI62399_1-20	CULVERT	PUBLIC	36	36	CONCRETE	PERNL_STREAM
655	PI62399_1-25	CULVERT	PUBLIC	24	24	CONCRETE	PERNL_STREAM
476	PI62499_wp-151	CULVERT	PUBLIC	30	30	CONCRETE	PERNL_STREAM
467	PI70199_wp-191	CULVERT	PUBLIC	36	36	CONCRETE	PERNL_STREAM
466	PI70199_wp-195	CULVERT	PUBLIC	36	36	CONCRETE	PERNL_STREAM
463	PI70799_wp-211	CULVERT	PUBLIC	30	30	CONCRETE	PERNL_STREAM
462	PI71299_rm-204	CULVERT	PUBLIC	36	36	CMP	PERNL_STREAM
459	PI71299_rm-21	CULVERT	PUBLIC	36	36	CMP	PERNL_STREAM
460	PI71299_rm-80	CULVERT	PUBLIC	30	30	CONCRETE	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
6	PI80599_wp-80	CULVERT	PUBLIC	32	0	CONCRETE	PERNL_STREAM
451	PI81099_rm-309	CULVERT	PUBLIC	36	36	CMP	PERNL_STREAM
449	PI81199_rm-13	CULVERT	PUBLIC	24	24	CONCRETE	PERNL_STREAM
450	PI81199_rm-15	CULVERT	PUBLIC	24	24	CONCRETE	PERNL_STREAM
448	PI81199_rm-2	CULVERT	PUBLIC	36	36	CONCRETE	PERNL_STREAM
443	PI81999_rm-196	CULVERT	PUBLIC	30	30	CONCRETE	PERNL_STREAM
441	PI81999_rm-250	CULVERT	PUBLIC	30	30	CONCRETE	PERNL_STREAM
5	PI91099_wp-5	CULVERT	PUBLIC	24	0	CONCRETE	PUGET_SOUND
1	PI011402_w-94	PIPE	PUBLIC	36		ADS	PERNL_STREAM
2	PI011402_w-96	PIPE	PUBLIC	36		ADS	PERNL_STREAM
8	PI101900_w-8	PIPE	PUBLIC	72		CONCRETE	PUGET_SOUND
10	PI071601_w-23	PIPE	PUBLIC	30		CONCRETE	INTER_STREAM
11	PI120301_w-17	PIPE	PUBLIC	30		CONCRETE	PERNL_STREAM
42	PI022102_2-40	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
68	PI020402_2-49	PIPE	PUBLIC	42		CONCRETE	INTER_STREAM
156	PI080601_2-120	PIPE	PUBLIC	48		STEEL	PERNL_STREAM
171	PI082801_1-225	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
178	PI072501_2-25	PIPE	PUBLIC	60		CONCRETE	PERNL_STREAM
186	PI042401_2-77	PIPE	PUBLIC	36		CMP	PERNL_STREAM
187	PI042401_2-260	PIPE	PUBLIC	24		ADS	PERNL_STREAM
194	PI061101_1-262	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
224	PI092700_2-8	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
225	PI092700_2-5	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
330	PI060100_1-174	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
332	PI052300_1-19	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
341	PI032901_2-235	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
345	PI031901_2-31	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
346	PI030601_2-137	PIPE	PUBLIC	30		CONCRETE	PERNL_STREAM
356	PI040301_2-245	PIPE	PUBLIC	120		CONCRETE	PERNL_STREAM



ID	PIPE ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
358	PI031301_2-51	PIPE	PUBLIC	96		CMP	PERNL_STREAM
359	PI031301_2-44	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
360	PI031201_2-161	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
368	PI020701_2-124	PIPE	PUBLIC	80		CONCRETE	PERNL_STREAM
369	PI010801_2-307	PIPE	PUBLIC	60		CONCRETE	PERNL_STREAM
370	PI011001_2-153	PIPE	PUBLIC	54		CMP	PERNL_STREAM
382	PI135_ph-11482	PIPE	PUBLIC	36		ADS	INTER_STREAM
389	PI051500_1-118	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
396	PI110399_rm-75	PIPE	PUBLIC	36		CONCRETE	INTER_STREAM
405	PI101199_rm-214	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
415	PI93099_rm-159	PIPE	PUBLIC	36		CONCRETE	INTER_STREAM
417	PI93099_rm-22	PIPE	PUBLIC	36		CONCRETE	INTER_STREAM
418	PI92999_rm-7	PIPE	PUBLIC	48		CONCRETE	INTER_STREAM
421	PI92299_rm-220	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
422	PI92299_rm-244	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
424	PI92199_rm-87	PIPE	PUBLIC	54		CONCRETE	INTER_STREAM
432	PI92099_rm-135	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
445	PI81999_rm-10	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
452	PI80499_rm-131	PIPE	PUBLIC	84		CONCRETE	PERNL_STREAM
454	PI72999_rm-182	PIPE	PUBLIC	32		CONCRETE	PERNL_STREAM
458	PI71299_rm-7	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
479	PI92399_rm-57	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
516	PI010702_1-70	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
524	PI91499_2-50	PIPE	PUBLIC	48		CMP	PERNL_STREAM
538	PI022002_r-196	PIPE	PUBLIC	36		CONCRETE	PUGET_SOUND
539	PI022002_r-193	PIPE	PUBLIC	48		CONCRETE	PUGET_SOUND
541	PI030502_r-273	PIPE	PUBLIC	24		CONCRETE	PUGET_SOUND
571	PI081401_r-142	PIPE	PUBLIC	24		STEEL	PUGET_SOUND
573	PI050801_r-81	PIPE	PUBLIC	24		ADS	INTER_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	SIZE_HEIGHT	MATERIAL	DISCHRG_DE
602	PI030801_r-191	PIPE	PUBLIC	36		CMP	PERNL_STREAM
603	PI030801_r-175	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
606	PI022001_r-15	PIPE	PUBLIC	24		CONCRETE	PUGET_SOUND
608	PI010301_r-7	PIPE	PUBLIC	24		CONCRETE	PUGET_SOUND
616	PI110900_r-36	PIPE	PUBLIC	24		CONCRETE	PERNL_STREAM
619	PI112200_r-14	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
624	PI081000_r-76	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
627	PI071200_r-17	PIPE	PUBLIC	24		STEEL	PERNL_STREAM
629	PI052300_r-13	PIPE	PUBLIC	36		CONCRETE	PERNL_STREAM
643	PI041200_r-38	PIPE	PUBLIC	24		CONCRETE	INTER_STREAM
651	PI62999_1-43	PIPE	PUBLIC	36		CONCRETE	PUGET_SOUND
667	PI022702_r-103	PIPE	PUBLIC	36		CONCRETE	PUGET_SOUND

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	MATERIAL	DISCHRG_IDE
1	PI011402_w-94	PIPE	PUBLIC	36	ADS	PERNL_STREAM
2	PI011402_w-96	PIPE	PUBLIC	36	ADS	PERNL_STREAM
8	PI101900_w-8	PIPE	PUBLIC	72	CONCRETE	PUGET_SOUND
10	PI071601_w-23	PIPE	PUBLIC	30	CONCRETE	INTER_STREAM
11	PI120301_w-17	PIPE	PUBLIC	30	CONCRETE	PERNL_STREAM
42	PI022102_2-40	PIPE	PUBLIC	24	CONCRETE	INTER_STREAM
68	PI020402_2-49	PIPE	PUBLIC	42	CONCRETE	INTER_STREAM
156	PI080601_2-120	PIPE	PUBLIC	48	STEEL	PERNL_STREAM
171	PI082801_1-225	PIPE	PUBLIC	24	CONCRETE	INTER_STREAM
178	PI072501_2-25	PIPE	PUBLIC	60	CONCRETE	PERNL_STREAM
186	PI042401_2-77	PIPE	PUBLIC	36	CMP	PERNL_STREAM
187	PI042401_2-260	PIPE	PUBLIC	24	ADS	PERNL_STREAM
194	PI061101_1-262	PIPE	PUBLIC	24	CONCRETE	PERNL_STREAM
224	PI092700_2-8	PIPE	PUBLIC	36	CONCRETE	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	MATERIAL	DISCHRG_DE
225	PI092700_2-5	PIPE	PUBLIC	36	CONCRETE	PERNL_STREAM
330	PI060100_1-174	PIPE	PUBLIC	36	CONCRETE	PERNL_STREAM
332	PI052300_1-19	PIPE	PUBLIC	24	CONCRETE	PERNL_STREAM
341	PI032901_2-235	PIPE	PUBLIC	24	CONCRETE	PERNL_STREAM
345	PI031901_2-31	PIPE	PUBLIC	24	CONCRETE	PERNL_STREAM
346	PI030601_2-137	PIPE	PUBLIC	30	CONCRETE	PERNL_STREAM
356	PI040301_2-245	PIPE	PUBLIC	120	CONCRETE	PERNL_STREAM
358	PI031301_2-51	PIPE	PUBLIC	96	CMP	PERNL_STREAM
359	PI031301_2-44	PIPE	PUBLIC	24	CONCRETE	PERNL_STREAM
360	PI031201_2-161	PIPE	PUBLIC	24	CONCRETE	PERNL_STREAM
368	PI020701_2-124	PIPE	PUBLIC	80	CONCRETE	PERNL_STREAM
369	PI010801_2-307	PIPE	PUBLIC	60	CONCRETE	PERNL_STREAM
370	PI011001_2-153	PIPE	PUBLIC	54	CMP	PERNL_STREAM
382	PI135_ph-11482	PIPE	PUBLIC	36	ADS	INTER_STREAM
389	PI051500_1-118	PIPE	PUBLIC	36	CONCRETE	PERNL_STREAM

ID	PIPE_ID	TYPE	OWNERSHIP	SIZE_WIDTH	MATERIAL	DISCHRG_DE
396	PI110399_rm-75	PIPE	PUBLIC	36	CONCRETE	INTER_STREAM
405	PI101199_rm-214	PIPE	PUBLIC	24	CONCRETE	INTER_STREAM
415	PI93099_rm-159	PIPE	PUBLIC	36	CONCRETE	INTER_STREAM
417	PI93099_rm-22	PIPE	PUBLIC	36	CONCRETE	INTER_STREAM
418	PI92999_rm-7	PIPE	PUBLIC	48	CONCRETE	INTER_STREAM
421	PI92299_rm-220	PIPE	PUBLIC	24	CONCRETE	INTER_STREAM
422	PI92299_rm-244	PIPE	PUBLIC	24	CONCRETE	INTER_STREAM
424	PI92199_rm-87	PIPE	PUBLIC	54	CONCRETE	INTER_STREAM
432	PI92099_rm-135	PIPE	PUBLIC	24	CONCRETE	INTER_STREAM
445	PI81999_rm-10	PIPE	PUBLIC	36	CONCRETE	PERNL_STREAM
452	PI80499_rm-131	PIPE	PUBLIC	84	CONCRETE	PERNL_STREAM